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THE
CINCINNATI
MEDICAL NEWS.

EDITED BY

J. A. THACKER, M. A., M. D.

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ORIGINAL CONTRIBUTIONS.

Some of the Wounds I Met with During the Late War,
and a Battle Scene from a Surgeon's Point of View.

A PAPER READ BEFORE THE "MCDOWELL MEDICAL SOCIETY" OF CUMMINSVILLE, JULY 10, 1879, BY CONRAD SOELLHEIM, AND RECOMMENDED BY THE SOCIETY TO BE PUBLISHED.

Gentlemen of the Society: At the close of our last meeting, I promised to submit to your consideration a short thesis for to-night, and choose for my subject—"Some of the Wounds I met with during the Late War.

I choose this subject because it is familiar to me, and because my mind did not fall on anything better right away. Again, until now, the various subjects submitted for the consideration of the Society were all of the medical branch; and so I thought a change for once to a surgical subject might prove acceptable. Moreover, I thought a battle scene, from a surgeon's point of view, would, perhaps, prove new to all of you gentlemen, with the exception of colleague Haight, who, I know, went through the mill himself.

When, at our last meeting, I announced this subject, I thought myself still in possession of original notes, taken at the bedsides of the respective wounded soldiers, and constituting, indeed, a very minute description of a number of peculiar wounds, together with their operations, treatment, and results, and which I would have much liked to submit, at the same time, to your inspection. These notes, however, I have mislaid, and a careful and extensive search for them was of no avail—so I had to rely entirely upon my memory in the description of the following cases

of wounds, which, although some fifteen years have since past, is as yet pretty clear as to the important points of them.

I shall only recite some of the wounds I met in the battles of Chickamauga and Missionary Ridge. I was then already serving on Gen. Van Deveer's staff as Brigade Surgeon, and as such was no longer ordered out to the front; but, instead, and as soon as the command moved to an engagement, assigned some accessible buildings for a Brigade Field Hospital. (See G. Order.)

At the two days' battle of Chickamauga, on September 19th and 20th, 1863, which was fought about ten miles south of Chattanooga, my Field Hospital was located in a hamlet, about six miles south of Chattanooga—this latter city being the base of operations for the army—and consisted of a church, a store-house, and a large cooper-shop. Immediately the floors were cleared of benches, counters, and other *debris*, and a thick layer of straw was put on them.

My brigade moved into the terrible conflict at about nine o'clock A. M., and about one hour later the wounded came pouring in in vast numbers—ambulance trains going back and forth as fast as possible, loaded down on their way to the hospital with groaning and mangled humanity. All day the battle raged, and it was dark night when the last wounded were brought in. By this time every space, nook, and corner (even the passage-ways) were filled with the wounded. Besides these, were a number of severely wounded, whom the surgeons in front would probably have done better to leave on the spot where they fell, and permitted them to die in peace, because they were unconscious and not likely to live over night—all brain wounds. These were left remaining on stretchers in the yards.

All night every surgeon available was hard at work, cutting out and extracting bullets and pieces of clothing—often carried along by the bullets into the wound canals—and putting on some temporary dressings.

It was an awful scene, and confusion reigned supreme! While many of the wounded hallooed at the top of their voices for the doctor to attend to them first, some of the severely wounded, with shattered bones, would beg loud and persistently to be put to death, so as to end their agony of pain. Others, shot through the bowels, or through the ungs, were seen to breathe laboriously, with shrunken

features, sinking fast, and their last hour of life evidently close at hand.

It was not until next morning about eight o'clock that we commenced amputating. But we did not get far on with capital operations. The second day's battle proved very disastrous to the Union army. Already at nine o'clock we were astonished at a fearful cannonade, which opened only about one mile south of our hospital, and the shells flying over and around us in vast numbers, striking in every direction, and causing considerable terror among the wounded and the nurses. One-half hour later an orderly came galloping up, handing me an order from the Medical Director, to the effect that the hospital be evacuated with all possible speed. It further said that the ambulance train would arrive right away, and that all transportable wounded should be carried to Rossville, two miles farther north; all the slightly wounded should be directed to immediately take up their walk toward Chattanooga; I should detail one surgeon and the necessary number of nurses for the wounded that could not bear transportation, and therefore had to be left behind. As I was at the time busy with amputating a hand, I gave the necessary instructions to the Hospital Stewart of my regiment—the Ninth Ohio—for promulgation.

But nearly all arrangements proved futile. The road right outside was already jammed with the disorganized and panic-stricken military, with fugitive cannons, ammunition, and provision wagons, with their maneuvering, wild in the effort to get them out of the reach of the enemy. Just as the ambulance train arrived, a rebel battery commenced playing directly upon the frightened humanity in the road, and tore man and beast, and everything else, to pieces! The ambulances being light-footed, and not taking time to take a single wounded on board, they were the very first ones to escape across the fields.

All the wounded at this time became perfectly terrified with the situation, except the one I had before me under the influence of chloroform—because already then it meant something horrible to be taken South as a prisoner. All who could move a step would rise from their beds of straw and try to escape northward. Presently my hostler, leading my two horses, appeared at the entry of the hospital tent, crying out: "Doctor, make haste; don't you see the rebel infantry down there approaching already in

columns?" Quickly dressing the stump of my patient, I stepped out and mounted the horse, and managed to escape through the fields. I was dressed very light for the big day's work, as we all had anticipated it would be—with light slippers on and a thin blouse. Surgical instruments, medicines, blankets, clothing, the hospital wagon, and, in fact, everything else was left to the enemy.

As I passed along, a most pitiful sight presented itself! The fields, to the extent of more than one-half mile on either side of the road, were strewn with miserable humanity. Many severely wounded managed to get along—some even with a bullet through a foot and with shattered bones. They would help themselves along by means of an improvised crutch—such as a stick or a piece of board. Some would crawl along on three, or all fours, exerting themselves to the utmost to get a few rods farther North; while others were already entirely unable to drag themselves one step farther on, and they had laid down to die or to be taken prisoners. Would their wounds, if taken prisoners, be cared for by the rebel doctors? Not much! as it proved afterward. Because, first, the battle was still raging all afternoon and until sunset, as the gallant Gen. Thomas, with his brave Fourteenth Army Corps—to which I am proud to say my regiment, the Ninth Ohio, belonged—still defied the approaching rebel lines, and only the dark night closed the carnage of death. Then, again, the enemy had too many wounded themselves; for which, of course, they would care for first. Two months later, when the rebel army was hurled back in the glorious battle of Missionary Ridge, and when the battle-field of Chickamauga came again into our possession, it was found that none of our dead had been buried, and that probably many hundreds of our wounded—especially those of the second day's battle, because they could not be collected by us—had died on the spot where they were wounded, for want of surgical attention and of something to eat or drink. For weeks, regiment after regiment was commanded out to that battle-field, to bury our dead, who were, of course, already in an advanced state of decomposition. Even the forty odd of our surgeons, who were captured in that great battle, could do but very little for our wounded within the enemy's lines, which we had already collected into the Field Hospital; because in most cases the rebel surgeons had taken our instruments, and the last dose of med-

icine, and blankets, and hospital stores. Even the private property of our surgeons was not respected, and they were robbed by the Southern soldiers of their blankets, overcoats, watches, moneys, and in some cases even of their pocket-knives.

Yes, war is cruel at any rate, even when you win the battle, and can glorify in the achievement of your arms and your valor, and all necessary appliances close at hand to attend to your many wounded; but it becomes indescribably horrible when you lose the battle, and have to look on the disorganized and panic-stricken soldiery, and at the loss of limb, and life, and property! And then, the fate of the prisoners! and how the hearts of the relatives and friends in the far-off home ache at the thought of the uncertain fate of their soldier-boys in the hands of the enemy!

I, and many of my colleagues, lamented the loss of that great battle mostly on account of the glorious opportunity for the great number of capital operations, and of which we were thereby deprived. How much good we could otherwise have done to our wounded and dying comrades, who were just then in such great need of us! how many lives we could have saved! how much suffering spared! how many cases prevented from becoming cripples! how, for once, we could have risen to our full importance and great usefulness and dignity! Now, all was lost!

Now, my fellow-colleagues, you will presently remark, that I don't come down to the work I had promised for this evening; that is, to the description of some of the peculiar wounds of the late war. But only one more moment's indulgence, I beg you, and I hope to be right there where you want me.

Two days after that great battle, the army of the Cumberland had completed its retreat to, and immediately around, Chattanooga, and that whole city was transformed into a hospital.

From the description above, it is evident to you, gentlemen, that the greatest part of our wounded in the hands of the enemy were of the severely wounded class, and the subsistence and care of them, bad as it was, proved to be quite an incumbrance to the enemy. So the rebel General Bragg sent notice to General Rosecrans that he could not readily provide for our wounded, and that he was ready to parole them.

Now, our army was living on very small potatoes already, or rather no potatoes at all; in fact, only on one-half ration of hard tack and bacon, because the enemy surrounded us nearly on all sides, and all our railroad and water communications cut off. On account of all these conditions, the additional wounded would certainly prove an immense burden on us. Moreover, it would take quite a number of our able-bodied men out of our decimated army to nurse those additional wounded, and at a time when the last man was badly needed in the ranks and for the building of breastworks and fortifications. The rebel general knew all these very well, and he calculated on this; but his offer was, nevertheless, promptly accepted. Day after day all our ambulances now moved out toward the enemy's line, where the rebels took charge of them. Our drivers were commanded to stand back, and they waited patiently for hours until their ambulances approached again, loaded down with our unfortunate comrades. Now, our men would take charge of them, and slowly and carefully drive them to Chattanooga.

With pain we now learned that a number of our officers and men had already died of their wounds, whose lives very likely could have been saved by a timely operation or other judicious treatment. Many wounds were in a gangrenous condition, so that a day or two after gangrene wards were set apart.

Here, again, I find my battle scene is becoming too tedious. But perhaps it may not be regretted by my fellow-colleagues assembled here this evening, and may serve you as a faint hint in military practice, since you are all, with only one exception, young in life yet, and may one time be called upon in such an emergency. May a kind Providence keep from us such an emergency; but he has not done so a good many times.

Now, this battle gave me the opportunity to observe the progress of many gun-shot fractures of the femur, for but very few cases a resection or an amputation had been resorted to, as we had to leave our wounded too soon. Without a single exception, as to my knowledge and as to that of many of my colleagues then in the field with me, all these cases died a most painful death, and this after weeks and in many cases after months of excruciating suffering. In such, a fracture of the thigh,

on account of the subsequent handling and transportation, the inflammation necessarily runs very high, the long muscles contracting more and more, and the splinters and sharp edges of the bones burying deeper and deeper into the flesh, and, of course, causing extensive sloughing and suppuration, and finally complete exhaustion and death.

To prevent such a fearful prognosis of these wounds, what should have been done? Most assuredly nothing less than the resorting to a resection or an amputation.

Another class of wounds, accompanied likewise with extreme suffering, and just as fatal in their result, were the gun-shot wounds of the knee-joints. Some of these wounds looked at first to be very trifling, and not a moment's reflection with regard to amputation was entertained. Of course a musket-ball can not enter the knee-joint and make its exit, however short and superficial the wound canal may appear, without severely grazing the bone. Not one of these cases recovered! High inflammation and profuse suppuration would soon set in, and, after some weeks, from twenty to forty ounces of pus would be discharged every twenty-four hours. Of course such a large joint—the largest in the body—with its extensive synovial membrane, forms a favorable point for inflammation, suppuration, and caries. In no other wounds did suppuration attain such a vast extent; and this immense drain of the system would go on for two to three months and over, until, and even in the strongest subjects, emaciation to a mere skeleton was brought about, and the patient died from extreme exhaustion.

Now, again, it must be inquired: What should have been done for this class of wounds to prevent such awful suffering and such fatal results? The answer seems easy enough, and is expressed in one word, viz: amputation; amputation at the outset and without a moment's hesitation!

It is, however, to be taken into account, as already remarked above, that the army suffered greatly from want of provisions, clothing, bedding, and every kind of hospital goods, and this is no small degree aggravated the already bad condition of the wounded.

But again, the average surgeon during the first two years of the war was not up to such an emergency. He would lay off such capital operations, and would express

a wish to save the bone or the limb. And he would look on only for a few days, or a week or two, and see how the case developed, as there was also such a thing as a secondary amputation. In most cases of wounds to the bones, the examination lacked thoroughness; because too painful, and the efforts to take out the splinters were few and mild; better wait a little, as there was such a thing as of loosening of the same by the subsequent suppuration.

Experience makes wise, is an old proverb; and so with the army surgeon; by and by he improved, and in the third year of the war we had an efficient medical staff.

A wise order to the army surgeon emanated from the Surgeon-General's Department, about the time of the battle of Missionary Ridge. Why it was not issued before I do not know, and it is to be much regretted that it did not make its appearance already at the outset of the war. This order made it the duty of the surgeon, that in all cases of wounds to the bones, the wounded soldier was to be put under the influence of chloroform without any delay, to the end that a careful exploration of the injuries may be had, clean the wound of splinters, and, if found necessary, to resect or to amputate right away. It also was argued in the same order, that any wound, where a bone was involved, was too painful for a satisfactory examination, without the use of anæsthetics. I ever afterward proclaimed that that was a wise order, and, late as it appeared, still saved many limbs and lives.

Just about this time the great era of resections was inaugurated, and with the most gratifying results. At the time of the battle of Lookout Mountain and Missionary Ridge, November 24 and 25, 1863, I was assigned to duty in Division Hospital, situated in Chattanooga, and consisting of two large three-story brick buildings, near the Tennessee River. Gun-shot fractures of the femur, if the soft parts were not too extensively torn and the femoral artery intact, were now treated with resection. Usually, and without much regard to the entrance of wound or exit, an incision on the outside, where the bone lies most superficial, of four to six inches long, was made, the muscles more shoved than cut apart, the splinters of bone taken out cleanly, the thigh bent considerably, and the fractured ends of the bone pushed out and sawed off smoothly. These cases got along well, and with the ex-

ception of the shortening of from four to five inches a tolerably useful limb was preserved. Many were the resections of the head of the humerus or a part of its shaft, parts of the ulna and radius, tibia and fibula, with generally very satisfactory results.

For wounds in the knee-joint, amputation was resorted to without hesitation. But in a great number of cases, amputation of the thigh, especially when as far up or above the junction of the upper and middle third, proved at that time very fatal. The cause of these bad results we ascribed mostly to the very reduced condition our soldiers were in at that time, they having, as already hinted above, since the battle of Chickamauga, gone through almost a famine, as also through extreme exposures and fatigues. Clothing and blankets were very scarce, as they had nearly all been lost at the battle of Chickamauga, and, with our broken communications, could not possibly be replenished. Under these unfavorable conditions, we used to consider that an amputation of the thigh produced too large a wound, too large for the constitution to repair.

To my regret I find that my description has been drawn out too long, and that it would be trying your indulgence too much were I yet to describe the special cases of wounds which I had in view for this evening. I therefore desist, and will conclude my paper by relating only one of these special cases. This was a soldier from the 38th Ohio Infantry. He was wounded in the battle of Missionary Ridge, a gun-shot ball piercing his knee-joint right through the middle, and from side to side. The surgeon from that regiment, Dr. Haller, concluded that this was a proper case for resection of the knee joint. It was immediately executed by laying the joint open just in front of the articulation, making one transverse cut right across and nearly half around the joint. The articular surfaces of both the femur and the tibia were sawed off to the thickness of one inch. For six weeks right along this case was doing remarkably well, the outer wounds had all nicely cicatrized, except two or three very small openings, which still kept on discharging a small quantity of good pus. The patient had for weeks a good appetite and rapidly gained in flesh. He was often sitting up in his bed to read and write letters. He was in the best of spirits, and so hopeful was he of his early recovery,

that he spoke daily of the time when he would receive a leave of absence to go home and see his wife and children.

Just at this time Surgeon-General Barnes, of the United States Army, was on a tour of inspection, and arrived in Chattanooga. Being informed of this case of resection of the knee-joint, and of its doing so exceptionally well, he desired to see it. He was led to the bedside of the patient, and he examined this case with intense interest. Coming back to the office of the hospital, the Surgeon-General remarked, that seemingly the case was doing exceedingly well, but that he could not believe in the ultimate recovery of the patient. So far, he said, there was in the whole army of the United States not one case of resection of the knee-joint on record, the result of which was not fatal. The operation had been performed a number of times in the Eastern army, but invariably with fatal results. The wound, the General continued, is too large a one, and especially are the opposing surfaces too vast in extent as to admit of complete repair. In all cases caries had ensued, and he was sure its appearance would also soon show itself in the case now before us.

And, I regret to report, the General was right. Only about one week later this patient suddenly presented all the symptoms of being attacked with pyemia, the openings in the knee discharging a thin unhealthy fluid. Two days later our heroic patient was dead.

The hospital had some time before been raised to a General Hospital, and myself appointed as surgeon in charge. Months before an order had emanated from the Surgeon-General's Department, which made it the duty of all surgeons in charge of General Hospitals, that in all cases of deaths resulting in consequence of injuries to the bones, the specimens of bones must be exsected, preserved, and nicely packed and sent to the Surgeon-General's Department in Washington City. So in this case I had the whole knee-joint, including the soft parts and to the extent of five inches above and below the point of injury exsected, put in a little keg filled with alcohol, and directed to the Surgeon-General. Before the packing was done, however, I and my assistants satisfied ourselves as to how far the healing process in the internal knee had progressed. To our great astonishment, we found that over the whole of the large surfaces of the bones not the

slightest effort at granulation could be detected. On the contrary, they looked black, and while toward their edges, the cut of the saw looked yet as new as possible, the centers were eaten up by caries to the depth of three-fourth of an inch. It is hardly necessary to state here, that we fully concurred in the opinion of the Surgeon-General, and that the chances for recovery for a fellow with a resected knee-joint are like—0.

Fellow-colleagues, this, the history of one of the peculiar wounds and its subsequent treatment, I met with in the field, and of which quite a number are vividly on my mind yet. With the sincere hope that our McDowell Medical Society may continue to prosper, it would afford me great pleasure to relate to you the history of some more of these wounds at some future meeting. Fellow-colleagues, thanking you heartily for your kind attention, I bid you good-night.

Proceedings of the Biological Society of Paris.

TRANSLATED FROM LE PROGRIS MEDICAL BY R. B. DAVY FOR THE
"MEDICAL NEWS."

INJECTIONS INTO THE BLOOD CURRENT.

M. BROWN-SEQUARD made some time ago some experiments on injections into the vessels of pure blood, defibrinated blood and milk. He performed them without inconvenience, defibrinated blood being susceptible of injection into the vessels of very different species of animals. When the blood of a bird was injected into the vessels of one of the mammifera, the globules rapidly disappeared. When milk was injected into the blood current, the milk globules disappeared also very quickly; but M. Malassez found that after such injections there were more white blood globules. Injections of milk have been employed successfully in man by several American physicians, and seem to be innocent. M. Brown-Sequard exhibited a dog in whose vessels he had five months ago injected ninety-two grams of milk in place of ninety-five grams of blood withdrawn. He has repeated this experiment, and thinks that milk can be injected to replace an equal quantity of blood taken away. But when shall one stop? Water thrown into the vessels after a loss of blood only hastens

death. It was in altogether different circumstances that Lorain saved an individual from cholera by injections of warm water as mentioned by Moreau. Brown-Sequard injected the liquid cold, and if it did not provoke a chill, as is usually the case with transfusion, it was because he injected it by the arteries and very slowly, so as to allow the temperature to become equalized.

DANGEROUS USE OF ATROPINE.

M. GALEZOWSKI pointed out to the society the danger which could happen to many patients from putting a few drops of solution of atropia into the eye. He cited several observations where children and adults had suffered serious accidents from absorption of very small portions of this substance by wounds in the eye. For instance, he operated on a child for cataract, and in order to prevent iritis, used for two days two or three drops of a collyrium, containing two centigrammes of atropine to ten grams of water. The child was taken with convulsions which ceased as soon as the atropine was discontinued. An old preacher of eighty years, operated upon by the same gentleman for a double cataract, was seized with dizziness, and fainting every time atropine was put in his eyes—the wounds singularly facilitating absorption.

To sum up M. Galezowski's thought that atropine was a very useful but also a very dangerous remedy, and should be handled with the greatest caution. Duboisine, a substitute for atropine, is a little less dangerous because it is not so active, but it is not to be believed, however, that the use of this agent is always harmless.

M. Dumontpallier remarked that it was to be wondered at that the history of atropia should present two epochs. Until 1866 physicians employing atropine by hypodermic injections had never met with any accidents. On the contrary, since 1866, symptoms, such as heat in the throat, vomiting, sudden eruptions on the skin, etc., had become very frequent, so much so in fact that now atropine is not used any more in our hospitals.

M. Laborde was convinced, in a physiological point of view, that atropine introduced into the eye produces its effect much more rapidly than in the subcutaneous cellular tissue, and especially if there is a wound in the conjunctiva. So far as the question submitted by M.

Dumontpallier was concerned, he believed it was necessary to seek the solution in the great or less purity of the article used. At the present day there are very few chemically pure products. He declared, moreover, that terminal convulsions did not constitute a physiological effect of atropia.

DIFFERENTIAL DIAGNOSIS OF PULSATING TUMORS IN THE EPIGASTRIC REGION.

M. FRANK related the history of a patient which he had seen with M. Boursier, an interne of the Hotel-Dieu in the service of M. Fauvel. The patient had a pulsating tumor in the epigastric region, and Mr. Frank was able to arrive at the nature of it by the aid of two signs, which are worth noticing.

1. There was an exaggerated retardation of the femoral pulse. This symptom is only observed in thoracic or abdominal aneurism. 2. Compression of the tumor produces a gradually increasing tension of the two femoral arteries, and if the compression is suddenly removed the arterial tension falls again. It is evident that if the tumor were solid and located in the aorta, compression and removal of compression would have produced opposite effects. These phenomena enabled MM. Frank and Boursier to diagnose the tumor in question as an aneurism of the aorta or coeliac axis.

DIFFERENTIATION AS REGARDS THE SEXES.

M. GAETAN DELAUNAY presented a communication on the differentiation of the sexes. The predominance of the male over the female, which is almost nothing in the inferior species, increases in proportion as we go from the inferior to the superior, and reaches its maximum in the human species. Man is better nourished, more vigorous, and more intelligent than woman.

But this predominance of man is only seen in the superior races. When the size, weight, cranial capacity, weight of brain, etc., are taken into consideration, the European man is more superior to the European woman than the negro is to the negress. According to Dr. Le Bon, the difference between the weight of the brain in man and woman increases in a constant ratio as we ascend the scale of civilization; so that as regards quantity of brain matter, and, consequently, intelligence, woman becomes separated more and more from man. In point of

age the predominance of man is greater in the adult than during youth or old age.

Let us take the weight of the brain for instance. The difference in favor of man which is represented by the number seven from twenty-one to thirty years, increases to eleven from thirty-one to forty years, and then falls to ten from forty-one to fifty, and to eight from fifty-one to sixty. (Broca.) This explains how in our upper classes of society the two sexes, after having joined in the same sports in childhood, become intellectually separated in adult age, and approach again in old age.

As regards constitution, the predominance of man over woman is greater in the large than in the small; in the inhabitants of the cities than in those of the country; and in the inhabitants of Paris than in those of the provinces. While the ordinary Frenchman has a cranial capacity of 150 cubic centimeters more than a Frenchwoman, the Parisian has 221 more than the Parisian woman. (Broca.) With peasants and workmen the man and wife having almost the same faculties have no reason to become separated thus.

It is not at all the same with the intelligent classes of the cities where the two sexes, in consequence of the great superiority of the man having neither the same thoughts, sentiments, nor tastes, can not longer comprehend each other, and become estranged. The predominance of the male over the female is greater in the apparatus of animal life than in that of vegetative life. Certain philosophers, partisans of the doctrine of equality of the two sexes, imagined that if they receive the same instruction it would have the effect of establishing the equality between them. Such is not the case. On the contrary, in the mixed schools where two sexes receive the same education up to fifteen years, it has been observed that after they are twelve years of age the girls can not keep up with the boys.

CONCLUSION.

The predominance of the male being greater in individuals and classes farthest advanced in evolution (superior species and races, adults, the robust, and the apparatus of animal life), is in direct ratio to evolution. Moreover, it is in direct ratio to nutrition, since it increases by functional activity. On the contrary, the equality of the two sexes is in inverse ratio to nutrition and evolution.

A Novel Pathology Advanced of Rabies, and a Novel Mode of Cure.

By R. R. HOPKINS, M. D., Sidney, Ohio.

I DESIRE to say a few words through the NEWS in regard to hydrophobia (rabies). Lately, in conversation with a friend at Chetopah, Kansas, on the subject of canine madness, he claimed it could be cured. After the disease has become established, he says, an abscess will be found in the rectum just inside the sphincter. If this is ruptured, and the animal is immersed in cold water three to four times a day for three or four days in succession, and after each immersion well wrapped in warm blankets to bring about quick reaction, it will effect a cure. His manner of rupturing the abscess is to lay the animal on its back, and with assistance bring forward the hind legs. Then, with the thumbs covered well with rubber stalls, produce firm and steady pressure on the sides of the rectum. It will soon bring into view an abscess, sometimes two of them, one on each side of the rectum, which can be lanced with ease. Be careful of any abrasion on the hand or fingers that the matter does not come in contact with them, as it would be dangerous. Distemper of the dog is to be treated in same way, as it is also caused by an abscess in the rectum. Inoculation of any animal from one of these rectal abscesses of either a distempered or rabid dog will produce rabies in it, and can inoculate another animal, producing hydrophobia. My friend claims that *post-mortem* examinations of rabid animals always locate the disease in the rectum; also in the same place in distempered dogs, instead of in the medulla oblongata and in the air passages. He speaks of this as a sympathetic derangement; consequently it must be a poison of the blood with a specific influence on the rectum. Autopsies, and experiments can frequently be made on distempered dogs, as it has a close analogy to rabies, as the facts go to show. If the lesions of the disease are found in the rectum of the lower animals, it is probable they are also in man; and the treatment that cures in one case will probably do so also in the other. I would be much pleased to have the opinion, and also have the benefit of experiments of some of my professional brethren.

SELECTIONS.

Clinical Lecture Delivered at Bellevue Hospital,
New York.

BY PROF. AUSTIN FLINT, SR.

Probable Aneurism of the Abdominal Aorta.—GENTLEMEN: The patient before you, whose name is Charles H., is forty-nine years of age. The family history is good, and he has never had syphilis, but has suffered from malarial trouble. He has been accustomed to hard work, and says that he has repeatedly strained himself in his labor. About ten months ago, while working as fireman in an engine room, he became greatly overheated, and then went out into the cool air; as a result of this he got a lame back. Since then he has never been well, and six months ago his sufferings became so great that he was obliged to give up his work. The principal difficulty was pain in the back, and he found that the more quiet he kept the less severe this was. He suffered most when stooping over. At length, as he did not seem to be getting any better, he concluded to come to the hospital, and was admitted here just two months since. Since his admission the pain has become considerably better, and he is now able to lie down, which before he could not do without the greatest discomfort. The pulse is eighty-four and the temperature normal, while the examination of the urine also gives a negative result. He has had some cough, which, however, is not significant, and complains of sharp pains at times in the groin in addition to that in the back. No cardiac murmur can be detected, but on making an examination of the abdomen we find that, while there is no tumor present, there is a pretty strong pulsation in the umbilical region, about seven and a half inches below the ensiform cartilage, and that this is accompanied by a systolic murmur. When I place the stethoscope over this point, most of you, I think, can distinguish the pulsation by the movement of the instrument, but such a phenomenon in this locality, I would have you understand, is by no means uncommon, and by itself is not at all significant.

It has been a question ever since this patient's admission whether he were suffering from aneurism of the

abdominal aorta, or not, and it would be a matter of satisfaction if we were now able to arrive at some definite conclusion in regard to the case. One of the principal points in favor of the diagnosis of aneurism is the locality and nature of the pain from which the patient has so long been suffering, and yet even this is not strictly characteristic of that condition. In a patient over forty-eight years of age the steady persistence of a localized pain in the back for a considerable period of time should always suggest the possibility, at least, of the presence of aortic aneurism, and especially if this pain is of a gnawing character. Here I learn that the pain was at first always in the same spot, which was quite circumscribed in area, but that more recently it has radiated more widely, and has also seemed to shift its position somewhat. In addition, we find that it is now considerably less severe than it was formerly, and on the whole, therefore, we are driven to acknowledge that we can not make much out of this pain that is diagnostic.

Of the other physical signs belonging to aneurism (but, as previously mentioned, by no means confined to that condition alone) we have a distinct epigastric pulsation, which is not only evident to the touch, but also visible. It is stated in the notes which have been taken of the case that, in addition, there is a thrill at the point of pulsation, but I must confess that, personally, I have not as yet been able to make this out. If there were a tumor in this locality, the diagnosis would probably lie between the following three things, aneurism, cancer, or enlarged left lobe of the liver; but in the present instance no tumor whatever can be detected. If there were a tumor present, there might be a strong pulsation, whether the condition were aneurism or cancer, and in order to make the differential diagnosis, therefore, something further would be necessary. If, then, on examination, we found that the pulsation was lateral as well as forward, it would point strongly to aneurism, since this is not the case with cancerous and other tumors. In certain cases of abdominal tumors, also, we are able to grasp the mass and raise it to some extent, when it will be found that the impulse before noted is lost on account of its separation from the aorta. This of course shows definitely that the tumor can not be an aneurism.

So much for the palpation of tumors in this region.

When we come to practice auscultation over them we not infrequently find that there is a loud systolic murmur in cases where, from other signs, we are able entirely to exclude aneurism. Still further, we sometimes actually get a *double* murmur in tumors lying in contact with the aorta, which are not aneurismal in character. This, I believe, is an original observation of my own, and the point has now been fully established by repeated observations. Formerly I used to suppose, in accordance with the teaching of all existing authorities, that the presence of a double murmur in such an abdominal tumor was absolutely diagnostic of aneurism, but on more than one occasion I have seen it demonstrated beyond question that this was not always the case. Still, it may be stated that, as a general rule, a double murmur is to be regarded as evidence of aneurism. Now, in the case at present under investigation, although no tumor can be detected, we find that there is a double murmur at the seat of the epigastric pulsation. When we listen carefully at this point we get a pretty loud systolic murmur, and, in addition, a somewhat less distinct diastolic one.

On sifting the evidence in favor of aneurism here, therefore, it is found that the only points really in favor of aneurism are two; first the pain present, and second, the double murmur. As to the epigastric impulse, it affords no evidence of this condition; and yet I am sometimes called in consultation to see cases where aneurism is supposed to exist simply because there is this abdominal pulsation. It is, indeed of very common occurrence, and especially among females. In abdominal aneurism the pain depends on pressure upon the spinal column and nerves, and in the present instance, as has been remarked, it is certainly not as significant as it might be. The double murmur, when it exists, is due, first, to the blood rushing into the aneurismal cavity (the systolic murmur), and, second, the recoil, which gives rise to the diastolic. The second sound is not produced until the sac has attained some size. If there were a tumor here I should not attach as great importance to the presence of a double murmur (for the reason, above stated, that double murmurs are occasionally found in tumors not aneurismal) as I now feel inclined to do; and I believe, therefore, that the diagnosis in this case must hinge to a considerable extent on the question whether it is possible to have a

double arterial murmur without aneurism, and also without the presence of a tumor. This question I am not prepared to answer definitely at present, since, while I do not remember ever to have met with a case of double murmur under such circumstances as those just mentioned, I do not feel justified in denying the possibility that it might occur. I think, then, that we must rest content to leave this case as yet *sub judice*, and in the meanwhile continue to treat the patient for aneurism, as has been done ever since his admission. He has been, and is at present, taking the iodide of potassium, which has now come to be recognized as *the* remedy for aneurism. As to how it acts in this condition we can only confess our ignorance, but the fact still remains that in certain instances of the affection the results produced by it have been most remarkable.

Heart Failure in a Case of Ascites and Pleuritic Effusion promptly relieved by the Intravenous Injection of Ammonia.—The next case that I have to show you is one that most of you will, no doubt, remember as having been before the class last week. I will not read the history over again, but will simply remind you that the patient had had hydroperitonæum, for which she had been tapped soon after her admission to the hospital (which occurred three days before), and that the pleural cavity of the right lung was still filled with liquid at the time you saw her. A week ago I dwelt upon the connection, as a general rule, of hydroperitonæum with cirrhosis of the liver, but stated that although in the majority of instances it was found that the latter stood in a causative relation to the former, there was no evidence to cause us to believe that this patient had been addicted to the use of alcohol. As this is the accepted cause of cirrhosis of the liver, we therefore concluded that the present was one of those comparatively rare cases in which hydroperitonæum existed without cirrhosis. A considerable amount of fluid had been removed by the tapping, and the patient, you will remember, was weak and quite nervous.

The subsequent history of the case has proved a most interesting one, and it is on that account that I have brought it to your attention again. On the day that you last saw her the patient began to suffer very greatly from nausea, without being able to vomit much, and the ineffectual efforts which she made towards emesis caused

her much distress. She was ordered a half ounce of whisky every three hours, but in spite of this did not seem to gain any strength, although she did not suffer much from dyspnœa. The following day she was still found to be very weak, but with no marked dyspnœa, and it was now noted that she was quite apathetic, so that she had to be persuaded to take her nourishment and stimulus. On the day after that the house physician was hastily summoned by the nurse, on account of the extreme exhaustion of the patient. When he reached the bedside he found her almost completely unconscious, that she would continually slide down in the bed, and that she could not be aroused to take notice of anything. The eyes had a vacant stare, the pupils were dilated, the tongue was dry and brown, and the jaw had fallen, so that there seemed to be no question that she was actually moribund. Under these circumstances paracentesis thoracis was promptly resolved upon, and ninety ounces of fluid was thus withdrawn from the pleural cavity. During the operation ten or twelve half drachms of whisky were administered hypodermically; but in spite of this the pulse, which had before been very weak, disappeared altogether at the wrist, while the cardiac impulse grew so feeble that it could scarcely be felt at all. It had been hoped that when the fluid had been removed, and the lung thus allowed to expand, so that respiration might be more satisfactorily performed and the blood more readily oxygenated, the evidently failing forces of the patient would rally, but this did not prove the case. The hypodermic injection of whisky having been found to be of no service in overcoming the extreme exhaustion present, half a drachm of liquor ammoniæ, diluted with an equal quantity of water, was injected directly into a vein of the arm, care being taken first to expose the vessel by dissecting up the skin over it, and that the needle of the syringe directly entered its lumen. The cutting of the skin did not make the slightest impression upon the patient, who was now apparently altogether unconscious, but in ten or twelve seconds after the liquor ammoniæ entered the circulation there was a marked increase in the strength of the pulsation of the heart. At the end of two minutes the pulse could again be felt at the wrist, and after two minutes more she gave a sigh, and began to rouse herself. She was soon able to take four ounces of egg-nog by the

mouth, and in half an hour from the time that the ammonia was administered she declared herself to be quite comfortable, and was breathing more naturally than she had done at any time since her admission. From this time on she took a considerable quantity of egg-nog, which was very well borne, and by evening was still further improved in every way. During the next two days she continued to grow better, and on the third, which was the day before yesterday, she felt well enough to sit up for a time.

I have been exceedingly interested in this case, and the various features of it have been so well brought out in the history that I have just read that it seems scarcely worth while to make any remarks upon it. Still, in order that the most important points may be the more strongly fixed in your minds, perhaps it will be well for me to make a few comments upon them. Here was a patient, with a large accumulation in one of the pleural cavities (having previously had hydroperitonæum in addition), who continued to grow weaker day by day, in spite of the most persistent stimulation, until at length the house physician was called to her bedside to find her actually moribund, as indicated by her whole appearance and condition. Whatever was to be attempted for relief, therefore, must needs be done as promptly as possible. First of all it was resolved to remove the fluid from the chest, under the hope that by thus causing an expansion of the hitherto crippled lung an improvement might be brought about; but, notwithstanding the fact that all through the operation a large quantity of whisky was administered hypodermically, the patient still continued to sink, until her situation seemed as desperate as it could well be. Then it was that the measure was resorted to which I believe was undoubtedly the means of saving her life, namely, the injection of ammonia into the circulation, especial pains being taken in order that the point of the needle of the hypodermic syringe should actually pierce the coats of the vein, but not transfix the vessel. The effect was certainly remarkable. The idea in employing the ammonia in this way was to tide over the failing system of the patient in this crisis of exhaustion until the powers of nature could rally once more from the depression which had paralyzed them, and the attempt proved eminently successful.

I confess that this practice was something altogether new to me. I had heard of ammonia being used in this way for the neutralization of the poison of venomous serpents in persons who had been bitten by them, but I do not remember ever to have seen the record of a case in which it was employed for the same purpose, and was followed by the same admirable results, as in this instance. Here the special object of the injection was to bring the stimulating action of the ammonia to bear directly upon the failing heart, and his case certainly seems to establish beyond a doubt the utility of this remedy as a cardiac stimulant.

Since the day before yesterday, when the last note was taken, the patient has continued to improve steadily, until to-day we find her in such a condition that there seems to be scarcely any doubt of her complete restoration to health.—*Boston Med. and Surg. Journal.*

Therapeutics of Diarrhœa in Children.

BY A. A. SMITH, M. D., NEW YORK.

METHOD OF REDUCING TEMPERATURE.

THERE is one symptom common to almost all cases of diarrhœa, if severe, and in my opinion it is the most important, and that is the increase of temperature. The best means of reducing the temperature is by the external applications of cold. Since we have the Kibbe's cot, which you have seen here, the immersion of the child in a bath is practically done away with. The Kibbe's cot can be improvised easily; it is a pleasant and convenient way of giving the wet pack; is just as effectual as the bath, and has very few of its objections. Fold a small sheet, so that it will cover the child from the axillæ to the ankles, place the child on the bed, leaving the arms and feet uncovered. The axilla can be dried easily, and the temperature be taken while the child is in the pack, or the thermometer may be introduced into the rectum, the most accurate way of taking the temperature. Water of the desired temperature may be poured on from a pitcher. In cases of slight elevation of temperature, say to 102° F., or under, sponging off the body with water about the temperature of 50° F. will usually answer the purpose, and it may be done

often enough to reduce the temperature nearly to normal. But in all cases of an elevation of temperature above 102° F., resort to the Kibbe's cot, or its substitute. Always remain and make the first application yourself. The parents will be timid about it, the child will cry, and it will be necessary for you to show them, by the good effects produced, the wonderful power by this means of reducing temperature, of calming the restlessness and irritability of the child, and of inducing sleep. Afterward you can teach them the use of the thermometer, and the methods of application of the water. The temperature of the water may be at first 90° F., then, gradually, as the child becomes accustomed to it, it may be made cooler, until it is brought down to 80° F. in a few minutes. It may be necessary, where the temperature is very high, or where it rapidly rises after it has been reduced, to apply the water even colder than 80°. Reduce the temperature to 99°. It usually goes down still farther after the child is taken out. Remove the sheet, put the child in a thin blanket, cover it up and let it sleep. It may be left in the pack twenty or thirty minutes, longer or shorter, according as you find the temperature down to 99°. In very severe cases, where the temperature rises to 105° F., or higher, it may be necessary to apply the cold every hour or two. In such cases you need not remove the child from the Kibbe's cot, but let it remain there for even days, if necessary. The cot may be made comfortable by folding a woolen blanket and putting it under the child. I can not speak too emphatically of the importance of the reduction of temperature in the treatment of the diarrhœas of children, and of this means of accomplishing it. It is, however, only an aid to other means of treatment.

NURSING AS A CAUSE OF DIARRHŒA.

One of the most frequent causes of diarrhœa in young infants is too frequent nursing. The child, when a few days old, can be taught to nurse about every two hours during the day, and every three hours at night. My first question, when I am called to see an infant under six months suffering from diarrhœa, is, "How often does the child nurse?" and frequently find it has no regularity of nursing, sometimes nursing as often as every half hour. By establishing regularity of nursing, the diarrhœa is often cured. A child under four months, as the rule,

will have two, sometimes three evacuations in twenty-four hours. This number is within the range of health. You will see many cases of diarrhœa with very little constitutional disturbance, but frequently of movements and the appearance of the movements not particularly unhealthy. Bismuth. subnitrat., three grains every two or three hours, will cure such cases.

PRETERNATURAL ACIDITY.

Sometimes infants have a tendency to preternatural acidity in the digestive organs. The diarrhœa that occurs in such cases is accompanied with considerable pain, the passage of small, cheesy-looking masses with the stools, the odor sour, and sometimes even offensive, the reaction decidedly acid. Such children may be given, with good effect, a teaspoonful of lime-water three times a day. Give it in two teaspoonfuls of milk. Chalk may be given. The *mist. cretæ* of the *Pharmacopœia* is a good preparation to give. It contains, besides the chalk, gum-arabic, glycerine, and cinnamon, all of them good in this form of diarrhœa. Sometimes it is well to give a laxative, as some of these cheesy masses may have collected in the intestines and may be acting as an irritant. The indication is to remove them. I have found the following prescription a better one to give than the traditional castor-oil:

R. Pulv. rhei rad.,	-	-	-	-	gr. xv.
Sodæ bicarb.,	-	-	-	-	gr. xxv.
Aq. menth. pip.,	-	-	-	-	5 ij.

M. Sig. 5 j. as laxative to a child from one to four months old.

In this prescription we get the laxative effects of rhubarb with its so-called secondary astringent effects, the alkali, and the sedative, and antiseptic effects of the peppermint.

In any case of diarrhœa, where there is reason to believe there is any irritant in the intestines, the treatment may be commenced by giving a laxative to remove it.

DENTITION AS A CAUSE OF DIARRHŒA.

Between the sixth and twenty-eighth month dentition plays a very important part in the production of diarrhœa. It might be called a nervous diarrhœa, for it is probably due to reflex nervous disturbances. If dentition is not

directly responsible for many of these diarrhœas, it is indirectly so by putting the system in a condition to be more susceptible to all those influences which do produce diarrhœa. In all cases where the gums are swollen, lance them. In any case where it is about time for the tooth to come through lance the gums over the tooth thoroughly and draw some blood. I believe the disturbance is often due to the pressure of the tooth deeply in, and before it shows much swelling on the surface. Lancing the gums never does harm. It is better to err on the side of lancing them when there may be no necessity, than to fail to lance when there might be necessity. I have often seen a child having from ten to twelve movements a day relieved entirely by lancing the gums, and with no other treatment. It is in these cases that the bromides prove so effectual. Give the following combination of a bromide with mucilage to a child between six months and a year; older children a larger dose:

R. Sodii bromid., - - - - - 5 ss.

Mucilag. acaciæ,

Aquæ puræ, aa q. s. ad., - - - - - 5 ij.

M. Sig. 5 j. q. 3 h.

The bromide diminishes the reflex disturbance, and the mucilage is soothing to the irritated intestinal mucous membrane.

ERRORS IN DIET AS A CAUSE OF DIARRHŒA.

Another cause of diarrhœal troubles is the giving of all sorts of diet too early. There is a desire to make the child strong and grow more rapidly. Meat, vegetables, and farinaceous articles in abundance are given to children even eight or ten months old. A child under eight months ought to have no other diet than milk, and even up to two years milk should be its main diet. Human milk is the best during the first year, or until weaning; but often from necessity the child is brought up on the bottle. During the first eight months cow's milk diluted one-fourth with barley-water makes the best diet. The ground or crushed barley should be boiled with water of sufficient quantity, so that when cold it is about as thick as thin cream. The milk should be given about blood-warm and a little sweetened. What place should condensed milk be given in the feeding of children? I should give it a place on the shelf at the grocer's. I have tried the condensed milk with children thoroughly, and

have seen it tried in the practice of others, and must protest against its use. Children fed on condensed milk, although they may thrive well apparently, yet when they fall ill show very little resisting power, and, particularly when they fall ill of diarrhœa, they weaken very rapidly and the diarrhœa is apt to be obstinate. There are exceptional cases in which it may be used, and some cases in which it is desirable to use it for a short time. When bottle-fed children suffer from diarrhœa it is well to boil the milk and make the barley-water thinner and give more of it, say one-third barley-water to two-thirds boiled milk. I have found thoroughly cooked wheat-flour an admirable food for children with diarrhœa. Have it prepared in this way: Put about two pounds of flour in a muslin bag, tie a string around the top of it, and suspend it in a kettle of water and boil it for five hours; then let it get cold. Take off the bag, cut off the outside dough and grate it. Thicken boiled milk with this to about the consistency of a thin gruel, or about thick enough for it to pass through the rubber nipple of a nursing-bottle. All food for children should be thoroughly cooked. Still more is this to be observed when they are ill of diarrhœa. As a rule, feed children suffering with acute diarrhœa just as little food as will satisfy their hunger, and often a little cold water will relieve their thirst and lessen the desire for food. Avoid alcoholic stimulants, unless there is exhaustion. Champagne iced may be given in small quantities, if there is obstinate vomiting.

FLATULENT DIARRHŒA.

There is a flatulent diarrhœa which occurs in young children and gives much trouble. The movements are frequent but very small, and the flatulence is sufficient to keep the child awake nights.

I have found the following prescription an excellent one in such cases:

R. Magnes. calcin.,	-	-	-	-	-	5 i.
Spts. amm. aromat.,	-	-	-	-	-	℥xl.
Tinct. assafoet.,	-	-	-	-	-	5 i.
Anisette,	-	-	-	-	-	5 vi.
Aq. Cinnamomi q. s. ad.,	-	-	-	-	-	5 iv.

M. Sig. 5 i. every half-hour until relieved, to a child from three weeks to four months old. Two or three doses will usually relieve.—*Medical Record*.

The American Neurological Association.

PRESENTATION OF CASES.

DR. A. D. ROCKWELL, of New York, presented cases, illustrating two important points in electro-therapeutics: 1. The necessity for and the good results which come from perseverance in the use of electricity in seemingly hopeless cases of infantile paralysis. 2. Differentiation in the use of galvanism and faradism for the relief of pain.

In the neuralgic case the faradic current was used after various forms of treatment have been adopted without benefit, and after four applications recovery was nearly complete, the disease having existed six months. It was a case of neuralgia in which *firm* pressure did not produce pain, while slight pressure produced great pain. In differentiating whether galvanism or faradism should be used for the relief of pain, the effects produced by pressure were most useful guides. While, however, true neuralgia and pain generally yielded more readily to the galvanic than to the faradic current, the latter was in some cases invaluable, and yielded good results when galvanism was useless. As a general rule, firm pressure well borne indicated the use of faradism.

With reference to the case of infantile paralysis, Dr. Miles asked if voluntary movements had returned to the muscles.

Dr. Rockwell replied that they had; that they were marked, and that they had returned after an absence of six months, after all normal recovery had taken place.

Dr. Miles remarked that he had succeeded in such cases in restoring galvano-muscular contractility, but not voluntary action.

WHICH POLE SHALL BE EMPLOYED?

Dr. L. C. Grey, of Brooklyn, asked which pole was used for the relief of pain.

- Dr. Rockwell replied that he used the descending current.

Dr. Hammond remarked that he had reached the conclusion that it did not make any difference with regard to which pole was employed, and that the one was as good as the other.

Dr. Rockwell remarked that to reach correct conclusions upon this, as upon other interesting points, considerable

observation was necessary. He had seen cases in which, after obtaining very good results from the use of the descending current, he had, in order to hasten the improvement, used the ascending current, and all the pain returned.

Dr. Hammond remarked that he had seen such a result from the continuous use of one current, either the ascending or the descending.

Dr. Grey remarked that his experience had led him to the conclusion that it made but little difference which pole was employed, except about the eye or face. Upon the face he had found a difference in the effect produced by using different poles, and he had explained the difference by the fact that in physiological experiments and therapeutical uses of electricity the conditions were essentially different; in the one the nerve was laid bare, while in the other it was more or less deeply covered with tissues. When deeply covered, the electricity became so diffused that its direct action upon the nerve was questionable, while in regions in which the nerves were less deeply covered the conditions present in physiological experiments were more closely approximated. He then referred to a case in which so long as he used the descending current there was an amelioration of symptoms.

Dr. Beard remarked that the most interesting feature of Dr. Rockwell's case was the fact that the faradic current gave relief to the pain. It had been stated for such forms of disease we must use the galvanic current exclusively. In the cases of sciatica reported by Dr. Gibney, of New York, that idea was involved, and it was a popular opinion in Europe at the present time; but it was erroneous.

The suggestion made by Dr. Rockwell with reference to pressure as an indicator in differentiation as to the use of galvanism or faradism to relieve pain was, perhaps, a good general guide; but it was not applicable to all cases.

With reference to the direction of the current, theoretically, there should be a difference, but, practically, he was not able to make the differentiation.

Dr. E. C. Seguin thought we could be guided by the polar test, according to the instruction given by Erb, with reference to the current to be employed. With regard to relief of pain, his experience had been favorable

to the sedative effects of the anode, provided a mild current was used, and to the exciting effect of the cathode.

Dr. Beard remarked that, in a majority of cases, pain was relieved when a sufficiently mild current was used.

For the first four or five years of his practice he always knew what pole he employed, but of late years, in very many cases, he did *not* know, and he was not able to recognize any change in the results of his electrical treatment.

Dr. W. J. Morton, of New York, remarked he felt quite sure that, in neuralgia of the trigeminus the positive pole reduced pain in cases in which the negative pole produced no marked effect.

The polar difference could be distinctly seen when the poles were kept sufficiently long in contact with the tissues. Dr. Morton then referred to the fact that ulcers healed rapidly when the positive pole was applied to their surfaces, while they became deeper under the influence of the negative pole, and, besides, several small superficial ulcers might be produced by the negative plate.

Dr. Grey thought there could be no question but that there was a physiological difference between the poles, but he failed to see that there was convincing evidence to prove any therapeutical difference.

Dr. Hammond thought Dr. Grey would change his opinion when he witnessed the result of electrical treatment of ulcers.

Dr. Grey remarked that he had used electricity in the treatment of abscess, and that he had not seen any difference in the results obtained by the use of different poles.

Dr. Hammond remarked that he knew there was a therapeutical difference between the positive and the negative poles, and that fact he first established to his own satisfaction in a series of cases of ulcers treated by galvanism at the Baltimore Infirmary several years ago. He knew that a silver (*positive*) plate placed upon an indolent ulcer, with a zinc plate (negative) above, facilitated healing; whereas, applied in the opposite manner, the condition was invariably aggravated. The single pair of plates gave the least possible intensity.

Dr. Grey remarked that he did not question the difference in the results in the treatment of ulcers, but he should not, from that fact, argue with regard to the therapeutical value upon the unbroken skin.

Dr. Beard thought there was no chance for dispute with regard to the effects produced upon ulcers by different poles, the positive being the more efficacious for healing purposes. He believed there was one thing sure—namely, that in all countries where electricity was used, there was less and less tendency to insist upon polar use. The best writers took the view that the practical difference between the positive and negative pole was not so much as formerly supposed.

Dr. Grey remarked that he did not believe there was any difference with regard to the direction of the current; and that, if there was a difference, it was between the poles.

Dr. Miles remarked that he had seen unmistakable difference between the two poles in allaying pain. In the treatment of myalgia occurring in his own person, he had found that the positive pole gave him relief much sooner than the negative.

INFANTILE ENCEPHALITIS FOLLOWED BY ATHETOTIC SYMPTOMS.

Dr. E. C. Spitzka exhibited a patient who had athetotic symptoms, as he believed, the result of infantile encephalitis.

GLOSSO-LABIO-LARYNGEAL PARALYSIS.

Dr. Hammond presented a patient suffering from the above disease. The treatment was, phosphide of zinc, one-tenth of a grain, t. i. d., and extract of nux vomica, one-third of a grain, t. i. d. Electricity was also used; and, while the patient was certain that he was improving, Dr. Hammond thought his condition would never be substantially improved.

MYELITIS WITH THE FORMATION OF CAVITIES OR VACUOLES IN GANGLION CELLS IN THE ANTERIOR HORNS OF THE SPINAL CORD.

Dr. R. T. Edes, of Boston, read a paper in which was given the clinical history of a case that developed, orderly and symmetrically, symptoms referable to the spinal cord. There was symmetrical atrophy of the legs below the knees, and the arms below the elbows, and the left pupil was larger than the right. The case was of a little less than four months' duration, and on microscopical examination of the cord the white substance was found normal in every respect. In the gray matter the only change

consisted in the presence of large polygonal spaces or vacuoles in varying numbers in the anterior horns. The processes of the ganglion cells seemed slightly changed in places—shrunk and shortened. The lesion was found in the cervical enlargement, in the dorsal region, and in the lumbar enlargement. The specimens seemed to illustrate that parenchymatous changes might take place independent of blood-vessels or neuroglia.

Dr. Putnam remarked that he had seen a case closely resembling Dr. Edes' in clinical history, except that the fever was higher, the temperature rising as high as 104°–105° F. There was the same progressive paralysis, and, on microscopical examination, spots of softening were found in the lenticular ganglion upon the left side. In the cervical region there was an evident change in the ganglion cells consisting in large collections of fat. He thought that it was possible, if the case had lasted longer, the change might have gone on to the formation of vacuoles.

Dr. E. C. Seguin referred to specimens in his possession, of acute myelitis, in which the symptoms of transverse and total myelitis were developed within twenty-four hours. Death occurred at the end of the sixth or seventh week, and on examination he found extensive softening of the lower dorsal cord, which microscopically exhibited no special lesion, but in sections below, the first of moderate worth, there were found vacuoles, such as described by Dr. Edes.

He thought the clinical history of Dr. Edes' case belonged to polio-myelitis more nearly than anything else.

Dr. Schmidt, of New Orleans, thought the so-called vacuoles in the specimens were globules of fat. In some of the ganglion cells granular degeneration was present, which commonly preceded the formation of free fat-globules.

The Secretary read a communication from Dr. J. S. Jewell, of Chicago, expressing his regret at not being able to be present, because of serious sickness in his family.

Dr. J. J. Mason exhibited micro photographs illustrating

THE HISTOLOGY OF THE MEDULLA OF THE ALLIGATOR,

After which the Society adjourned, to meet at 8:30 P. M.

SECOND DAY—EVENING SESSION.

The Association was called to order by the President.

The proceedings began with remarks by Dr. Wm. A. Hammond, of New York, on

METALLO-THERAPY.

He referred to its history, spoke of his own work in connection with the subject, and expressed his great surprise that a man of such scientific training and experience as Charcot should have lent himself to so vile a humbug. Dr. Hammond showed disks of various metals which he had used in his experiments, and asserted that the one of tortoise-shell was the most efficacious, and was the one used most.

The subsequent discussion of the matter showed it to be the unanimous feeling of the Society that the claims of metallo-therapy were unfounded and absurd.

In view, however, of the fact that it was not yet universally condemned by physicians, and even had the support of some eminent men, it was voted that a committee be appointed to investigate the matter, both in its medical and psychological phases.

Dr. W. J. Morton, of New York, then read a paper upon the

TOXIC EFFECTS OF TEA.

The subject, he said, was the best studied by examining that class of men, such as tea-tasters, who habitually took tea in large amounts. It was, however, not easy to obtain extensive data concerning those men, for they feared if the facts become known it might injure their business. Five cases, however, had been collected, and those, together with experiments performed by the writer upon himself, formed the basis of the paper.

The bad effects of tea-tasting were known and recognized by the tea-tasters themselves, and few could carry on the business many years without breaking down. One tea-taster estimated that he got about half a pound of tea into his system during a day. It has been said that the symptoms from which tea-tasters suffered were due to alcohol or dyspepsia, but the facts collected showed the contrary.

The writer then gave the history of the cases referred to, and of the experiments upon himself.

The following is a resume: First, as to the immediate effects of moderate doses, there was in the cases observed, an elevation of pulse, increase of respiration, agreeable exhilaration of mind and body, a feeling of contentment and placidity, an increase of intellectual and physical vigor, with no noticeable reaction.

The immediate effects of an excessive dose were rapid elevation of pulse, marked increase of respiration to the extent of about one-third, increase of temperature, no period of exhilaration, but immediate and severe headache, dimness of vision, ringing in the ears, dullness and confusion of ideas. Following that was a severe reaction; exhaustion of mind and body, tremulousness and "nervousness," and dread of impending harm, that could not be relieved by taking more tea.

The effects of continued doses were a continuance of of the tremulousness, extreme susceptibility to outside impressions, constipation, diminution of urine, and marked influence on the metamorphosis of tissues as shown by the diminution in the amount of urea. Thus, in the week during which the writer was taking toxic doses of tea the amount of urine fell from f ̄ xl. to f ̄ xxxii. per day; and in the same time the urea fell from gr. 591 to gr. 422 per day. The sulphates, phosphates, and chlorides were increased.

The results as regarded the diminution of urea agreed with previous experiments, but showed the influence of the tea much more strikingly.

From the study of the drug's action. Dr. Morton arrived at the following conclusions:

1. That with it, as with any other potent drug, there was a proper and an improper use of it.

2. That in moderation it was a mild and pleasant stimulant, followed by no harmful reaction.

3. Its continued and moderate use led to a very serious group of symptoms, such as headache, vertigo, ringing in the ears, tremulousness, "nervousness," exhaustion of mind and body, with disinclination to mental and physical exertion, increased and irregular action of the heart, and dyspepsia.

4. The mental symptoms were not to be attributed to dyspepsia.

5. It diminished the amount of urine, and retarded the metamorphosis of tissue.

6. Many of the symptoms of immoderate tea-drinking were such as might occur without a suspicion of the real cause.

The paper being open for discussion, Dr. J. J. Putnam, of Boston, asked whether the symptoms of weakness, nervousness, etc., which followed the taking of large doses were those of reaction, or were the continued toxic effect of the drug.

Dr. Morton thought that they were the latter.

Dr. Hammond referred to a case of his where the patient suffered intensely from neuralgia brought on, he believed, by tea-drinking.

Dr. Miles asked if the tea-tasters were subject to any great mental strain or anxiety in their business.

Dr. Morton said that they were not. Referring to the influence of alcohol, he asserted positively his belief that it had nothing to do with the train of symptoms he had given. There was, to be sure, very often a craving for alcohol, but it was not uniformly felt, and the danger of drinking was appreciated by the tea-tasters.

The Association then adjourned to meet on Friday at 2:30 P. M.

THE DOSAGE OF ELECTRICITY.

Dr. Geo. M. Beard read a paper on the above subject, in which he stated that the dosage of electricity was a complex result of a number of different factors.

1. The strength of the current.
2. The length of the application.
3. The quality of the application; and
4. The method of the application.

1. The strength of the current.—It was difficult to estimate that, and to say that we had treated a patient with so many cells was saying but little. The size of the electrodes, the manner of their application, and the moisture of the skin, must all be taken into consideration. The resistance offered by the skin was also an important element; for it was variable, and besides, the quality and temperature of the water were important considerations in making an estimate.

The amount of electricity passing through the body was varied by—

- a. The electro-motive force of the battery.
- b. The internal resistance within the battery; and

c. The external resistance outside of the battery.

2. The length of the application could not be determined with minute precision. As a rule, European neurologists made shorter applications than did the American. There was no question but that long applications exhausted muscles, and an application of one or two minutes' duration to a paralyzed muscle was all that was beneficial. The beginning of electrical treatment should be with short applications and mild currents.

No absolute rules could be given regarding strength of current or length of application. Other things being equal, a stronger current required shorter applications. Other things being the same, the galvanic current was not so well borne for a long time as the faradic current of corresponding strength.

3. The quality of the application. The use of mild currents at first was wise. Experience compelled us to admit that stimulating as well as sedative effects could be obtained by negative as well as positive poles. Practically, the difference between the positive and the negative poles, and between the ascending and the descending currents, was one of degree rather than kind.

4. The method of application was largely included in what had been said. He had long ago recommended the terms, medium, mild and strong currents, as the best approximation possible to a fair description of the doses of electricity.

Again, the dosage of electricity was modified by the external position of the poles. The same strength of current with the negative pole was a stronger application of electricity than with the positive pole in the same locality.

Even the best constructed galvanometers interposed in the circuit could not be an accurate measure of the dosage of electricity, for the reason that the amount of electricity passing through the body of the patient would vary with the pressure on the sponge and with the position of the electrodes. Consequently there might, in different applications, be the same number of degrees indicated by the galvanometer, while the applications really were very different in their character and in their effects, because the electrodes were differently placed.

Temperament was another element to be taken into consideration in regulating the dosage of electricity.

Finally, what was true of familiar drugs and the conditions regulating their dose, was true of electricity.

Dr. Rockwell remarked that, in his opinion, the only rule that could be laid down with reference to the dose of electricity was that the faradic current should never be given of such strength as to make it unpleasant for the patient, except in treating paralysis; and the same held good with reference to the galvanic current. He had experienced advantage from the use of a long-coiled galvanometer, although the instrument had no practical value except to show the presence of a current and to determine the positive and the negative poles. He also spoke of the benefits of general faradization.

Dr. Grey spoke of the good effects of general faradization, and then followed a long discussion regarding the manner of its application, which was participated in by Drs. Rockwell, Grey, Hammond and Beard, and finally the discussion was postponed until the following evening.

PATHOLOGICAL LESIONS IN THE NERVOUS SYSTEM IN YELLOW FEVER.

Dr. H. D. Schmidt, of New Orleans, demonstrated microscopical specimens prepared from the brain and spinal cord of patients dying of yellow fever.

From his experience in that disease, he was satisfied that, in the great majority of cases, death occurred from congestion of the brain. If the case had sufficient duration, pathological changes occurred in the ganglionic bodies of the nervous system. Fatty degeneration and fatty infiltration were prominent characteristics of this disease, and the fatty change was developed within four or five days in some of the organs. His observation had not been sufficiently extensive to enable him to say whether the fatty changes were due to direct effects first upon the blood or first upon the nervous system, or whether there was a double action. He had made sixty autopsies in yellow fever cases, and in all instances in which he had made microscopical examinations he had found the brain congested, sometimes throughout, sometimes in certain portions, especially in the parietal lobe. In some cases he found the ventricles filled with serous fluid and sometimes purulent. During the last epidemic he examined the spinal marrow and the sympathetic system, especially the semi-lunar and the first thoracic

sympathetic ganglia. To his surprise he found in the semilunar ganglion, also in the thoracic, that the nuclei of the ganglion cells were entirely gone, and besides, that the ganglion cells had a true fatty luster. The ganglionic cells in the cortex cerebri had undergone fatty degeneration, and in almost all cases it was difficult to recognize the ganglionic cells. The object of exhibiting the specimen was simply to show that the congestion in yellow fever was throughout the entire brain in the great majority of cases; cerebrum, cerebellum, pons and medulla oblongata.

With regard to convulsions which had been described as uræmic, he did not believe they were of that character. He believed that suppression of urine occurred only in exceptional cases of yellow fever. In 1867, in the course of a large practice of yellow fever, he saw but two cases of real suppression of urine; almost uniformly such cases were cases of retention, and he had usually found urine in the bladder of persons dying with what had been supposed to be due to suppression of urine.

Dr. Schmidt did not accept the doctrine advanced by Dr. Richardson, of Philadelphia, that the tubules of the kidneys were filled with bacteria; they were blocked up with disintegrated epithelium, and he did not accept the opinion that the blood underwent decomposition.

A Few Notes upon the Actual Cautery.

THE Actual Cautery is one of the most ancient of surgical resources. To have seen it in its widest range of application one must have lived centuries ago. Could we have attended the clinics of Abulcasin—or as he is more frequently though improperly called Albucasis—in the latter part of the eleventh century, the rising smoke would have told us of its extended use in the hands of that eminent Arabian surgeon. Or again, if we turn over the pages of his *Al-Tasriif*, we find between fifty and sixty chapters devoted to a consideration of the Actual Cautery. In the sixteenth century Ambrose Pare, by introducing the ligature, as well as a more rational means of treating gun-shot and certain other wounds, limited, in a measure, its sway. To-day, notwithstanding the opposition by the

so-called Eclectic and Homœopathic elements, the Actual Caution stands out as a surgical means of real value.

Though sentiment and public opinion cry out against it, the foremost men of the profession ever continue to assign it its place as an important curative agent.

As a counter-irritant in a deep-seated chronic inflammation it makes a more decisive and lasting impression than any other means in our employ. Besides its highly salutary effect, the application of the Actual Caution is followed ordinarily by very little, if any pain. Were we to discard the Actual Caution, what means would we have for arresting the course of those stealthy, yet destructive inflammations of the larger articulating surfaces of the body? Certainly none. Nor, except by this means, could we avert the truly frightful effects of coxalgia after it has reached its second stage? Consult the annals of surgical history upon this point, and then, in that light, tell us whether or not our treatment is *too heroic*. Is it beyond cavil *the one remedy* par excellence here. By the effectual use of the Actual Caution, the absorbents will be stimulated and a totally new action set up in the deep tissues of the joint. Besides the intrinsic worth of the application, we have an excellent absorbing surface for the endermic use of morphia, so essential in quieting the violent pain and relieving the spasmodic twitching of the muscles. More than one case has come under the writer's observation where the patient, his friends, and even the physician, have lulled themselves into the fatal security of believing that *seemingly* milder and less active means fulfilled the requirements of the case. The permanent deformity and the crutches tell us of the terrible mistake. As a hemostatic the Actual Caution acts rather by charring the ends of the vessels than by any constricting action, hence the danger of secondary hemorrhage following its use in this capacity. It is in our day but little employed for this purpose, except in osseous cavities otherwise inaccessible. Many writers, teachers and practitioners, generally, of the present era, detract as fully from the merits of the Actual Caution as did the older surgeons overestimate them. The eleventh and the nineteenth centuries represent, in this particular, the extremes of the pendulum's range; and we can only trust that in the near future the place of the Actual Caution in surgical therapeutics will be determined not by a rash and precipi-

tate antipathy, but more and more by its real worth as proven by practical results in the hands of skillful and scientific men.

J. W. HICKMAN, M. D.,

MAY 6, 1879.

1945 N. Eleventh St., Philadelphia.

Painless Method of Excising the Whole Tongue.

BY RICHARD BARWELL, F.R.C.S.,

Surgeon to and Lecturer on Surgery at Charing-Cross Hospital.

GENTLEMEN:—I would call your attention to this man, on whom I performed excision of the whole tongue nine days ago. You see that he is in excellent condition, and can already speak with considerable distinctness. He has taken walks outside the hospital, and wishes to go home, but I shall detain him till the proper dismissal day.

* * * * *

The method itself is very simple. The instruments required are a small scalpel, one or two Liston's needles, and an ecraseur, or better, two ecraseurs. When the patient is well under the influence of the anæsthetic, place a gag between the jaws, draw the tongue a little forward, and pass through the raphe a string, with which the organ is to be simply controlled, not dragged out of the mouth, which must be avoided. An incision, about a quarter or a third of an inch long, is now made from the hyoid bone forward, and strictly in the middle line. Thus far you will see my operation resembles Nunneley's, except that my incision is farther back and shorter; but from this point the methods differ, for that surgeon passed by means of a seton-needle the loop of an ecraseur chain into the floor of the mouth through the frenum of the tongue, and then dragged the part to be removed forward through the loop; and, although he could remove considerable parts by these means, he could hardly get at the whole organ, and I think his opening into the mouth too short and direct, nor did he eliminate pain.

By my method, when the raphe of the mylo-hyoid has been divided, the knife is laid aside, the genio-hyoid and genio-hyoglossus muscles are separated from their fellows by the handle of the scalpel, or by the finger if the surgeon have a small finger-tip, and the root of the tongue is readily reached; but the mouth is not to be opened

here. An armed Liston's needle is now placed in the wound, and the forefinger of the other hand between the diseased side of the tongue and the jaw, as far back as it will go, viz: a little beyond the last molar tooth, and to this point the needle is guided, taking care to keep it rather nearer to the bone than to the side of the tongue; here it pierces the mucons membrane, enters the mouth, and the thread, being released, is withdrawn, a loop of cord being left behind. The same thing is then done for the other side, except that here a loop in the mouth is unnecessary. The ecraseur is now taken in hand; it must have one end of the wire detached and bent into a sort of hook at as sharp an angle as the material will bear. Tie an end of the last placed thread in the bend of this hook; then by traction on the other end, that in the mouth, draw the wire along the track of the needle. When the metal appears in the mouth just beyond the last molar tooth, pull the wire gently through till the nozzle of the ecraseur is close to the supra-hyoid wound; then detach the thread and pass the wire hook into the loop of twine that enters the mouth of the diseased side of the tongue, and by gentle traction draw the metal from thus far back in the mouth, out at the hyoid wound, and attach it to the body of the instrument. Before screwing the wire tight, pass a finger along the dorsum of the tongue and ascertain its exact position. I am not afraid of its lying too far forward—it might easily, without care, sit too far back, also it might slip away from the desired place as the screw is used; therefore, having fixed the exact line along which the tongue is to be severed, I place my finger where that line intersects the raphe on the dorsum of the tongue; to it I pass the Liston needle, letting its point project a line or two, and taking care that the wire lies behind it; by this means the ecraseur can be guided exactly along the required plane. When the base of the tongue has been cut through, and the wire has come out at the wound, the loop of the same or of another ecraseur is passed over the tip of the tongue into the line of incision, and the tissues, small in quantity but very vascular, which attach the tongue to the floor of the mouth, slowly cut through, when the whole organ is severed, and is removed from between the lips.

Now, to call your attention to the man himself. He lost during the operation not more than ten drops of

blood, and none since. He has in front of the hyoid bone a very small scar of an already healed wound,* and no other external mutilation. He had lost the whole of the tongue, well clear of the disease, as you see by the specimen, and within a line or two of the epiglottis; yet he has no fever, his temperature is normal, and he takes tepid liquids without difficulty. Whenever I have asked him if he is in or has suffered any pain, he invariably answered in the negative. It seems strange, at first sight, that an organ so sensitive as the tongue can be removed without the production of a moment's pain, especially as a good deal of suffering follows the usual modes of excision; yet, when we have considered the matter together, you will see that this is a necessary result of my method of operation. By avoiding any dragging of the tongue forward, but, on the contrary, getting the ecraseur wire round it *in situ*, and by keeping that wire, just previous to its entrance into the mouth, rather near though not close to the ramus of the jaw, I divide the sensory nerve of the tongue—the lingual-gustatory—close to the bone; it then retracts into its groove, and the whole wound must of necessity be insensible to pain. Therefore the man could immediately after the operation take abundance of liquid nourishment, avoided fever, and the part has rapidly healed. I would suggest, though I have not yet had an opportunity of reducing the proposal to practice, that when a less portion of the tongue has to be removed, the lingual-gustatory nerve of one or both sides, according to the extent of amputation, might with advantage be divided on the ramus of the jaw.—*London Lancet*.

Removal of a Hair Pin from the Female Bladder; of a Shawl Pin from the Trachea.

BY EDWARD T. CASWELL, M. D., OF PROVIDENCE.

THE only apology I have to offer for grouping these two cases is that they both occurred in my practice within the space of a month, and were both in girls of the same age, namely, fourteen.

*The very oblique and valvular communication between this wound and the cavity of the mouth renders the passage of fluids along it almost impossible; thus obviating the production of a fistula.

CASE I.—I was called into the country January 11, 1879, to see M. N., who twenty-four hours previously had introduced a hair pin by its bent extremity into the urethra. It suddenly slipped from her fingers and was lost, she did not know where. She had suffered considerable pain, and the urine was tinged with blood. After etherizing her I made an examination, and readily detected the hair pin lying crosswise in the bladder. To facilitate its removal I dilated the urethra somewhat with instruments and with my little finger. After trying various forceps with no avail I determined to use a lithotrite, and as a preliminary to this I incized the meatus on either side. I hoped to be able to change the position of the pin, but in this I was disappointed. Therefore, seizing it in the middle of one side in the blades of the lithotrite, I bent it, and with considerable force succeeded in withdrawing one extremity, the rest of course easily following. No disturbance attended the operation. Her attending physician reported that for three days there was slight hæmaturia, but no incontinence, and little or no pain in micturition. She was about the house in three or four days, and in the course of the week he left her as well as usual. At no time was her pulse above 80, or her temperature above 100° F.

CASE II.—Mary F. was brought into the Rhode Island Hospital February 4, 1879, with the statement that three weeks before she had swallowed a shawl pin, and that "it was in her wind-pipe." She was standing with the head of the pin in her mouth, when she coughed, and the pin suddenly disappeared. She had suffered considerable pain, and was much alarmed. On auscultation, rough, coarse rales were heard over the trachea, more upon the left side than the right. On examining her with the laryngoscope I clearly saw and demonstrated to my assistants and others the shawl pin in the trachea, with its point imbedded in the lower surface of the left vocal cord. I could not, or rather did not, see the head of the pin. I at once performed tracheotomy under ether, and to my surprise on opening the trachea I could not find the pin. How it had been dislodged and had fallen down the trachea, after being, as I still suppose, firmly fixed in one place for three weeks, I can not imagine. But such was the fact. While holding the tracheal wound open with both hands and inspecting the surface of the trachea, the

pin was suddenly ejected about an inch above the wound, and as suddenly fell back. It was so instantaneous that but one other person out of a dozen by-standers saw it, and I think it could hardly have been caught if one had been standing ready for that purpose. I examined the trachea thoroughly with forceps as far down as the bifurcation of the bronchi without detecting the pin. The girl was then held in an inverted position, and while the tracheal wound was held wide open I irritated the trachea slightly, and the pin was thrown out upon the floor. It was rusty, about two inches long, with a glass head. The girl recovered without the slightest drawback; she did not even cough, and in less than four weeks the wound was entirely healed, and she was discharged. The case proved most clearly the toleration of instrumental interference on the part of the trachea, but, what is still more surprising, it shows that the trachea tolerated the presence of a foreign body for three weeks without the slightest after-effects.—*Boston Med. and Surg. Journal.*

Changes in the Sympathetic in a Case of Progressive Pernicious Anæmia.

DR. BRIGIDI reports a case of progressive pernicious anæmia, in which the autopsy revealed interesting changes in the celiac plexus, but no fatty change or other lesion in the heart and other viscera. In the fresh state the plexus presented an excessive proliferation of nuclei, so that in many places the nerve-cells were destroyed; in other places these cells seemed pigmented, but were cleared up by the addition of reagents. The blood-vessels were empty. In ganglia, hardened in alcohol, the nerve-cells could only be found in isolated spots; in the greater part of the sections they were replaced by groups of small elements, which resembled nucleoli. From the microscopical appearances, Dr. Brigidi constructs the following chart of the pathological process: The endothelium lining the capsules of the ganglia began to proliferate abnormally, destroyed the nerve-cells by pressure, and formed granulations, some of which assumed a bronzed or brown color, while others underwent fatty degeneration. The further this fat development proceeded, the more the nerve substance disappeared.

until finally the proliferation of nuclei persisting, the entire nerve substance was destroyed, and its *debris* was found dispersed in the newly formed nuclear growth. The nerve fibers of the ganglia had likewise undergone fatty degeneration. The empty blood-vessels of the ganglia also presented an excessive proliferation and accumulation of the endothelium. Around the ganglia there were thick layers of connective tissue, which was but poorly supplied with nerves. — *Allg. Med. Cent.-Zeit.*, No. 98.

MICROSCOPY.

Molecular Bees.

AMONG the numerous objects of scientific interest recently exhibited at the *soiree* of the Royal Institution (London, England), the delicate apparatus was conspicuous by which Mr. Crookes illustrated his last discourse before Easter. "Molecular Physics in High Vacua," is the title of an address which sounds as if it could only interest men who had devoted a lifetime to the study of physical science; but Mr. William Crookes on that occasion riveted the attention of a large and distinguished audience by the exceptional brilliancy of his experiments and the ability and clearness with which he described them. Nearly six years have elapsed since Mr. Crookes startled the scientific world by his researches on "repulsion resulting from radiation," which led to his discovery of the radiometer. Following up those early experiments, Mr. Crookes found that the movement of this instrument was due to the presence of residual gas, and is therefore explained by what is called the "kinetic theory of gases." During his radiometric experiments he observed phenomena which he could not account for, and which he therefore resolved to investigate. The results, as far as they go, were embodied in his lecture at the Royal Institution. Such high-sounding phrases as the "Kinetic theory of gases" and "the mean free path" were very ingeniously explained at the outset by reference to a box containing a swarm of bees. Imagine, said the lecturer, that the bees are moving about in every direction with different velocities, each independently of the other; they

will constantly come into collision with each other, and must consequently be perpetually rebounding. The velocities and directions are then altered, and pressure against the sides of the box is produced. If the bees are very numerous, the distance—or, in technical scientific language, the “mean free path”—they have to travel before coming into collision will be short. If they are few in number, the distance or “mean free path” will be long. This, then, is the state of things which occurs in any space filled with gaseous matter. Gases are composed of minute particles called “molecules,” and these molecules, like the bees, are moving about in every direction with velocities which differ according to the temperature. By exhausting the gas contained in a closed tube the “mean free path” becomes lengthened. At a certain point the movement of the molecules produces the phenomena observed in the radiometer, and, by carrying the exhaustion to a higher point, Mr. Crookes observed the still more wonderful phenomena now under investigation. In fact, as Mr. Crookes himself remarks in one of his papers to the Royal Society, the phenomena reveal to physical science a new world—a world where matter exists in a fourth state, and they also show that under given conditions Newton’s corpuscular theory of light still holds good. Mr. Crookes’ first experiment was with his electrical radiometer. When the spark from an induction coil is passed through an ordinary vacuum tube a dark space appears round the negative pole. Mr. Crookes has experimented on this dark space with different kinds of poles, a varying intensity of spark, and different gases. On connecting his electrical radiometer, which has aluminium disks coated with mica, with an induction coil, a halo of a velvety-violet light formed on the metallic side of the vane, the mica side remaining dark. As the exhaustion was increased a dark space was seen to separate the violet halo from the metal. In a second experiment the lecturer exhibited this dark space in a sealed tube, and when the power was great the brilliancy of the unoccupied parts of the tube seemed to overpower the dark space, but, on closer examination, it was found to be unchanged. At very high exhaustions the dark space became so large that it filled the tube. The presence of the dark violet focus was, however, still visible, and as the rays diverging from the rays fell on the glass, a sharply defined spot of

greenish yellow light was seen; ultimately the tube became beautifully illuminated with this greenish yellow phosphorescent light. The color of this phosphorescent light differed according to the kind of glass used. With one tube the light was blue, and with another yellow. Among the most interesting experiments were those in which it was shown that this green light is spoilt by the addition of a little gas; and, unlike the light observed in the ordinary vacuum tubes, it obstinately refuses to turn a corner. It radiates from the negative pole in straight lines, casting a strong and sharply defined shadow from any object which happens to be in its path. The shadow of an aluminium star was projected on a phosphorescent screen. As long as the metal star was insulated the shadow remained sharp, but on uninsulating the star the shadow widened out and formed a second shadow outside the original one. By means of an electro magnet the shadow was twisted either to the right or to the left. Perhaps the most beautiful experiments were those in which the phosphorescence of the diamond and ruby were shown. Diamonds from South Africa phosphoresce with a blue light, other varieties gave bright blue, apricot, pale blue, red, yellowish green, orange, or pale green. Tubes were exhibited, containing masses of natural and artificial rubies; these both glowed with a rich, full red color. We must pass over numbers of the experiments, including those which show that the great heat evolved when the concentrated focus of rays, deflected by a magnet, is sufficient to heat and melt platinum, and also those which demonstrate the mechanical action of the projected molecules. These, like all the experiments, were most successfully arranged and carried out. With regard to the explanation of the phenomena the lecturer believes that the swiftly moving rebounding molecules spend their energy on the sides of the glass vessel, and the production of light accompanies this sudden arrest of velocity. The light proceeds from the glass, and is apparently caused by fluorescence or phosphorescence on its surface. The shadows are not optical but molecular, revealed only by an extraordinary illuminating effect. These discoveries are, of course, too new to have issued in any practical applications at present. Indeed, as Mr. Crookes remarked, it is seldom that a discoverer lives to see the utilization

of the discoveries he makes. We venture to predict, however, that, sooner or later, these philosophical researches must lead to results of great practical importance.

Notes and Memoranda.

From our London (England) Correspondent.

ANOTHER METHOD OF PRESERVING BACTERIA, ETC.—“T. C.,” in *Science-Gossip*, says that he has experimented upon a method for obtaining permanent preparations of Bacteria, Vibriones, etc., and after some years of patient research has found the following excellent method: The requisites are a bottle of thin Canada balsam diluted with chloroform, a hot-water plate, and the fixing solution, which consists of 25 cc. of chromic oxidichloride acid to which is added 50 cc. of water with 50 cc. permanganate of potash. A ring of white wax, much larger than the cover-glass, is drawn on the slide, within which the organisms are placed with some water. When they have attached themselves to the slide, some of the solution is added, which will instantly fix the specimen. After three minutes the water may be poured out, and a few drops of chloroform added and poured off, the cover-glass placed carefully on, and a few drops of dilute Canada balsam added, so as to flow under the cover, and the preparations placed on the hot-water plate to dry. Thus prepared they retain all the features of the living animal.

PREPARATION AND PRESERVATION OF THE LOWER ORGANISMS.

—M. Raphael Blanchard, of Paris, referring to the process employed by Koch to preserve and photograph Bacteria, says* that more than two years ago, he preserved Bacteria in lasting preparations by using, with excellent results, osmic acid instead of the process of desiccation employed by Koch, which he considers a very bad one.

In a few hours, or two days at the longest, the surface of water in which an organized substance (vegetable or animal tissue, etc.) has been macerated, becomes, as is well known, covered with a slight pellicle composed of a more or less compact mass of Bacteria, enveloped in a hyaline, transparent substance of slight consistence. This membrane is so fragile that the slightest movement

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or breath which ripples the surface of the water tears it. A tolerably large piece of this membrane can be obtained by carefully introducing into the liquid beneath it a glass slide, and raising it with precaution.

If we then add, with a pipette, one or two drops of a concentrated solution of osmic acid (or even a solution of 1 in 100) to the membrane on the slide, it immediately acquires a much greater consistency and can be covered without fear of tearing it. A drop of a solution of violet of methylaniline should be placed at the side of the cover-glass, drawing away the osmic acid by a cigarette paper on the opposite side. In about half an hour the Bacteria assume a fine violet tint, the fundamental substance remaining colorless; if the impregnation lasts longer the Bacteria assume a deeper hue, and the fundamental substance becomes tinted. We can then replace the violet of methylaniline by glycerine which does not render the preparation colorless, as Koch says, if we add a small quantity of the violet. A concentrated solution of sulphate of calcium can also be used with advantage to preserve the preparations. M. Blanchard's collection contains preparations made thus in 1876, which are as bright in color as at first.

The violet is not the only aniline color which can be used, but it seems to be more durable than others.

A solution of hæmatoxyline can also be used with advantage. When a "proliferous membrane" (F. A. Pouchet) has been treated with osmic acid, it is left for twenty-four hours under a damp bell-glass, in a watch-glass containing a few drops of hæmatoxyline. There is then formed an iridescence which spoils the clearness of the preparation, but which can be easily removed by repeated washings. The membrane is then mounted in glycerine (with or without the addition of hæmatoxyline), or in a solution of chloride of calcium, and preserves indefinitely a fine violet tint.

If the Bacteria are free in the liquid, the process of mounting them would be exactly the same.

To prepare Infusoria, or any of the lower organisms, osmic acid should be used, but in a strong or even concentrated solution which instantly kills the animalculæ. A group of Vorticella thus fixed will retain its natural form, some of them being completely extended and others more or less retracted. Amœbæ, Rhizopoda, etc., have

no time to retract their protoplasmic filaments, and die spread out on the glass in their living aspect.

Ciliated Infusoria do not lose their cilia, and except a slight blackish hue they are in no way modified by the reagent. Some Opalinæ found more than a year ago in the intestine of a Triton have preserved to this day the delicate cilia with which their body is covered.

The contact of the osmic acid must not be prolonged, or the objects will blacken with age. After the animaculæ are covered with the thin glass, a few drops of picro-carmin or hæmatoxyline can be added.

The picro-carmin does not sensibly color Bacteria, but it colors very clearly the nuclear formations contained in the bodies of the Infusoria. After the coloring glycerine can be added, and the preparation is complete.

In the study of the lower vegetable forms with naked protoplasm, Myxomycetes, for instance, osmic acid and picro-carmin and hæmatoxyline can be equally well used. By the action of osmic acid the currents in the protoplasm of the Myxomycetes are instantly suspended, and in a few instants the protoplasm is sufficiently hardened to make sections possible.

There are certain exceptional cases in which osmic acid has no direct action. A Nematode, for instance, *Anguilula aceti*, can live a long time in a liquid containing osmic acid. In the case of a female the eggs develop and hatch, and the embryos grow at the expense of the mother, until nothing remains of her body but the outer cuticle, which resists all attacks of the acid. When the young *Anguilulæ* have pierced the cuticle and are free, they swim apparently unharmed by the acid, though they generally die in a few days.

A similar example is furnished by the larvæ of the Diptera, *Chironomus plumosus* (Linn.), which lives in water strongly mixed with osmic acid, owing to its cuticle resisting the acid.

Royal Society.

THE annual conversazione of the Royal Society was held on Wednesday evening, April 30, at the Rooms of the Society, Burlington House, when, in response to the invitation of the President and Council, there was a brilliant assemblage. As is usual on these occasions, many new inventions and works of art were exhibited. Mr. A. Hilger

showed a new quartz spectroscope for ultra violet rays made for the Scientific Society at Stettin. It gives the lines from A to T, with the *minimum* angle of deviation, and conserving the full pencil of light. His new spectroscope, "a direct vision spectroscope after Thollen's plan adapted for laboratory use, and capable of giving exact measurements," which was made for Professors Dewar and Liveing, and described by them in a paper at the last meeting of the Royal Society, was also shown. Among the other objects he exhibited were a new "universal variable power prism," by which, with a single prism placed in different positions different dispersions are obtained, and the new Thollen high-power dispersion bottle prisms. There was also an improved form of the Christie half-prism spectroscope shown last year. Mr. E. B. Bright exhibited models of his electric fire alarm. A printed description furnished to the visitors stated that the report of the New York Fire Patrol Committee showed that the prompt announcement of fires had reduced the losses to the extent of seventy-six per cent. in houses provided with indicators, as against those not so provided. He showed the plan of the works he was arranging in the west district for the London Fire Brigade. His electric plan can be applied either to communication from street stations to the central or district office, or by automatic action from small instruments placed in each room of a house, when the heat caused by a conflagration affecting the coiling of a metal spring gives electric contact. Among the art objects bearing on natural history were some interesting vases from Japan obtained by Mr. Gardner, F. G. S., from the Paris Exhibition. They are what are known as Satsuma ware, and illustrate the way in which the Japanese can faithfully represent fish, crabs and other "lower forms" of life, even if they are not so successful with higher animals and the human form. One seemed to express some fable of the migration of tortoises, admirably done, with some long-tailed chiefs or kings leading the migration, while another gave apparently truthful delineations of fish unknown to us. The most remarkable of the Japanese work, however, was a large slab stated to be the largest slab of real porcelain ever made, and level as possible, with a painting of fish in water remarkably well executed. Mr. Crookes, F. R. S., exhibited his exhausted tubes and other apparatus, illustrating various phenomena connected with molecular physics in high

vacua, on which he recently read a paper before the Society. Mr. Ladd showed the effects of examining sections of polarizing crystals under mono-chromatic light, the bands seen being far more numerous than with white light. Among the more popularly interesting of Mr. Browning's exhibits was a new automatic sunlight recorder and an automatic spectroscope designed by Professor Liveing. Professor F. Guthrie contributed a large series of specimens of broken glass in frames, illustrating the fracture of colloids. There were among the many other objects of interest, a collection of birds' eggs made by the naturalists of the Challenger, and photographs of the effects of the great earthquake in Cachar. Besides a large collection of objects of scientific interest, there were many works of art.

At another time we will state more in detail the articles that were exhibited and by whom, as reported to us for the NEWS by our London correspondent. There were five rooms filled with the articles on exhibition. In Room IV. there were exhibited the following:

Microscopes: Pleurosigma Angulatum, with $\frac{1}{8}$ "Oil Immersion" Lens.—*Exhibited by Messrs. Powell and Lealand.*

New $\frac{1}{18}$ Lens by Zeiss, of Jena; designed by Prof. Abbe on the homogeneous immersion system (used with oil of cedar wood), resolving *amphipleura pellucida* in balsam; illuminated with an immersion illuminator designed by J. Mayall, Jr., specially for use with Roos' Zeutmayer Stand, showing striat 100,000 to the inch.

New $\frac{1}{8}$ Oil Immersion Lens, by Powell and Lealand, resolving *frustulia saxonica* (dry); illuminated, etc., etc., showing striat 90,000 to the inch. Used with a dry object, the mirror being placed about 35° from the axis, the illuminating rays, after passing through the illuminator at this inclination, emerge and are incident upon the dry object at an inclination from 80° to 90°, exhibiting the striation with great facility.

*Exhibited by Mr.
J. Mayall, Jr.,
and
F. Crisp, Sec.,
Roy. Micr. Soc.*

New Microspectroscope, in which a rectangular quartz prism is substituted for the usual metallic slit.—*Designed and exhibited by F. H. Ward.*

Broken Glass, in frames, illustrating the Fracture of Colloids.—*Exhibited by Prof. F. Guthrie, F. R. S.*

A LOBSTER'S BLOOD.—Dr. Leon Fredericq, of the University of Gand, in March last, read a preliminary notice before the Royal Academy of Belgium on the peculiarities of the blood of the common lobster. Long ago Harless indicated the presence in the blood of the crustacea of copper, and it is well known that the nutritive fluid in this group, as well as that in the mollusca, changes its color when exposed to the air. In the crab this change of color is due to the rapid absorption of oxygen, on being mixed with which it assumes a fine blue color, and if the oxygen be taken from it, it resumes its rosy yellow tint. Jolyet and Regnard arrived (1877) at the following remarkable conclusion—that in the crab's blood there were two coloring matters—the one blue, the other red; the first occurs in connection with albumen, which, when coagulated by alcohol, presents a very pure blue color, while the red coloring matter remains in solution in the alcoholic filtrate. Dr. Fredericq arrives at just the same conclusions from his study of the blood of the lobster. The plasma of its blood presents in effect two coloring matters; the rose-colored one is not coagulable by boiling nor in alcohol; it contains no metallic body; it does not change its color either *in vacuo* or when exposed to oxygen. It has nothing to do with the change of the color of the blood. It is not even constant in this fluid, as some lobsters were found to have only the second coloring matter present in their blood. This second coloring matter (*hemocyanine*) is not soluble; both heat and alcohol coagulate it, forming blue clots. It is, therefore, an albumenoid, and it contains copper. When these clots are investigated with the microscope, it is evident that the points of departure for the formation of the blue material are the blood globules. The saline composition of the lobster's blood sensibly approaches that of the water in which it lives. The author suggests that in the invertebrates the two chief functions of the blood—respiration and the nutrition of the tissues—both, belong to its plasma, the globules having quite a

secondary importance; while in the blood of the vertebrates the respiratory function devolves on the globules, and the nutritive function on the plasma.

GLEANINGS.

MALTINE.—This preparation, only recently introduced to the Medical Profession in this country, appears to have earned considerable reputation among the faculty in Great Britain; so we judge from the remarks made regarding it in the European journals.

“At the late meeting of the British Medical Association at Bath in August last, among the exhibits of Pharmaceutical and Medical preparations, much interest was shown in one called *Maltine*, which may be described as a highly concentrated extract of *malting barley, wheat and oats*.

“Extracts of Malt (*i. e.*, malted barley) are pretty widely known, but this is the first example of a combination of the nutritious principles of these three cereals that we have seen, and the greater value of this combination is apparent, as wheat and oats are especially rich in muscular and fat-producing elements. This preparation is entirely free from the products of fermentation, such as alcohol and carbonic acid, and is very agreeable to the taste.

“Clinical experience enables us to recommend it as a nutritive and digestive agent, in virtue of its albuminoid contents, and its richness in phosphates and diastase, likely to prove an important remedy in pulmonary affections, debility, many forms of indigestion, imperfect nutrition, and deficient lactation. It will in many cases take the place of cod-liver oil and pancreatic emulsions, where these are not readily accepted by the stomach.”—*British Med. Jour.*

IDOFORM SERPIGINOUS CHANCROID.—Dr. Watkins reports to the New Orleans *Medical and Surgical Journal* excellent results from the use of iodoform in that most intractable disease, serpiginous ulceration of the inguinal region, a sequel of chancroid of the penis. He describes his plan as follows:

“The skin around the ulcer was thoroughly washed with castile soap and water, and afterward with a ten per cent. solution of carbolic acid; care was also taken to cleanse

the ulcerated surface of suppuration. The patient was then placed under the influence of chloroform, and stick caustic potash thoroughly applied, first to the edges of the ulceration, afterward to the entire extent of the diseased surface. The result was a black eschar which was detached from its location by carbolized flaxseed poultices. When the slough had become separated, a finely granulating, healthy looking ulcer remained. This was sprinkled twice a day with pure iodoform, and healing occurred with great rapidity. A piece of dry lint was placed over the iodoform, and at each renewal of the application the ulcer was carefully and gently washed with pure water.

"I would add that previous to the introduction of iodoform to the local treatment, the thorough destruction of the ulcer with caustic potash had been tried, but the healing process was uncertain."

INJECTIONS OF LINSEED OIL FOR THE CURE OF CHRONIC CYSTITIS.—A man, aged twenty-nine years, entered the hospital December 23, suffering from cystitis of six months' standing. Micturition occurred every hour both day and night. The urine contained a large amount of mucus and pus. The ordinary remedies were used without benefit, and finally Dr. Howe proposed to distend the bladder and keep it so as long as possible. The agent he used was linseed oil; eight ounces were used at each daily injection. After the treatment had been continued for a week, the cystitis improved. The pus and mucus disappeared. Micturition occurred only six times in twenty-four hours, and was unattended with pain.

Another patient, aged forty-nine years, was admitted with cystitis of three months' standing. Urine contained both pus and mucus. Micturition was painful, and occurred eighteen times a day. The injections of linseed oil were used as in the previous case. After eight days the pain abated, and he was able to hold his urine for two hours; but at that time he left the hospital and has not reported since.—*N. Y. Med. Journal.*

THE USE OF THE FORCEPS IN LABOR.—Dr. Johnson made a report on this subject, lately, to the Obstetrical Society of Dublin. He said that he had for years been an advocate for the more frequent use of the forceps, having seen the injurious effects of long continued pressure on the soft parts. If nature seemed able to accomplish delivery

without detriment to mother or child, let her do so; but when nature seemed unable, the uterus feeble, and the patient exhausted by ineffectual pain, why should we leave a fellow-creature in prolonged agony, when we have at hand certain means of speedy relief? The forceps was perfectly safe, if used by a skilled hand, in suitable cases. The os uteri must be *dilatable*, though it need not of necessity be fully *dilated*. He considered the os fully dilated when the aperture had a diameter of four inches. The more frequent use of the forceps, in his opinion, tended to favor the life of the child and of the mother. He had administered chloroform in five hundred and thirteen cases of forceps operation, without any unpleasant consequences. He always removed the forceps as soon as the occiput was under the pubes and the head bulged the perineum. The forceps he now used was Barnes'. After delivery by the forceps, he always had the vagina syringed out with some antiseptic solution for two or three days.—*Phila. Med. and Surg. Reporter*.

TROMMER EXTRACT OF MALT.—We have used the Extract of Malt manufactured by the Trommer Extract of Malt Co., of Fremont, Ohio, and have found it to be a preparation of very great value. The virtues of good Malt Extract in many ailments are rapidly becoming so well known that it scarcely needs a word of commendation from us, except to give our opinion of the properties of the preparation and its compounds, as now so extensively manufactured by the firm above referred to. It is indicated in all diseases accompanied or caused by impaired nutrition, simple or tuberculous, acute or chronic. In the convalescence of fevers, pneumonia, bronchitis, etc., the wasting diseases of children, joint affections, the emaciation accompanying uterine disorders, certain forms of dyspepsia, neuralgia—in fact, in cases where we would expect *food medicines* to be beneficial, the Malt Extract alone, or at times combined with iron, hypophosphites, pepsine, etc., will give most satisfactory results. One of the best tests of the value of an article is the quantity consumed; and we are informed that the company is sending out immense quantities, not only throughout Canada and the United States, but also to Europe, where their malt stands high in the estimation of those who are perhaps slower to adopt anything new or foreign than we are on this side of the Atlantic.—Editorial in *Canadian Journal of Medical Science*.

THE SURGICAL TREATMENT OF ANASARCA.—Mr. H. Adolphus Wickers communicates the following (*Medical Times and Gazette*, January 4): The legs having been well oiled and a rubber sheet placed under them, about twenty or thirty punctures are rapidly made in their sides with a stout needle or hare-lip pin; some sponges which had been squeezed out in a saturated water of solution of salicylic acid are now placed against the punctures, so as to absorb the fluid as it transudes; these sponges, as they become filled, are squeezed out, and again passed through a solution of salicylic acid, before being again placed against the patient's skin. In this manner renewals may be required about every two or three hours; and four or five pints of fluid may be drained away during the first day, the whole process being possibly completed in four or five days, at the end of which time the punctures are usually healed. By the use of salicylic acid, decomposition of the dropsical fluid does not occur, the sponges are kept free from fetor, the skin is not irritated, and cutaneous inflammations of a low type are entirely prevented.—*Phil. Med. Times*.

DIARRHEA IN CHILDREN.—The indications for treatment of the majority of the cases of children's diarrhea are, to prevent and relieve indigestion, and to maintain the health and power of the nervous systems. These indications are met by hygienic measures, and a very moderate use of medicine. The sensitive stomach of the sick child is liable to revolt against large doses, strong odors, and unpleasant tastes.

A severe diarrhea in a nursing child will sometimes be relieved by *seeing to it* that the nurse has sufficient and varied food; is free from worry and disease; is cleanly, especially as to her nipples; has an abundance of fresh air; is not overheated; that she has no dyspepsia or constipation.

As an artificial food for babies, cow's milk is still the best, provided it is pure, fresh and can be easily digested.

In over one-half of the cases of diarrhea that have come under my care during the last few years, pepsine has been the only medicine necessary; has been given after each movement, in 3 to 5 gr. doses, in milk, or in a mixture of glycerine, dilute muriatic acid, cinnamon, or winter-green water, or combined with bicarb. sodæ, 2 grs., if there was

much acidity of the secretions. If an astringent is necessary it may be added to the pepsine mixture. Generally 5 or 10 drops of the fl. ext. of blackberry root, or of the geranium maculatum, is sufficient for a dose. These astringents have seemed to me to be preferable to kino, catechu, etc.

The medicinal *mist rhei. et sodæ* has been used in about one-fourth of the cases where an astringent and alkali were needed. Generally but a few doses were needed when pepsine could be used.

Malarial diarrhea is relieved by the inunction of 3 grs. of quinine twice or thrice a day till 12 gr. are used.

The hypodermic injection of 1-90 grs. of strychnia, p. r. n., in severe prostration, not otherwise amenable to treatment, is valuable.

One-drop doses of tr. or wine of ipecac., or a fraction of a drop of the fl. ext., or of ac. carbolic, given every hour, will ordinarily relieve the vomiting occurring with diarrhea.—*Dr. Jerome Walker, Brooklyn.*

CREMATION.—The Municipal Council of Udine, in Northern Italy, has lately published a decree, in which it declares that, after having duly weighed and considered the advantages and drawbacks of cremation *versus* interment, it has come to the conclusion that the former is in every respect preferable, for the following reasons: 1. In a hygienic point of view, it is undoubtedly the best way of disposing of dead bodies. 2. It is a mark of progress, because, by making cremation optional, the individual is at liberty to choose between the two modes of burial. 3. Considered from a scientific, social, religious and sentimental point of view, no valid reasons can be brought forward against it, while many very good reasons might be quoted for it. 4. The expenses would not be heavier than those of an ordinary burial. Crémation has been long introduced, and is carried out, at Milan, as at Gotha. It is now also officially authorized in Paris. We shall be glad to welcome it in Philadelphia.

TREATMENT OF EPIDIDYMITIS.—Professor Zeissl, of Vienna, after a thorough trial of the method of Professor Hourod, of Lyons, states (*Allgemeine Med. Zeitung*, No. 46) that he prefers it to all the other methods he has employed. He treats all stages of the disease in the following manner: The scrotum is first enveloped in one or two thicknesses of wadding; over this is applied a square

piece of india-rubber sheeting, through a hole in which the penis is passed. A suspensory is then adapted so as to support the testicles as immovably as possible. The patient is able to go about and attend to his affairs without pain or inconvenience, and the apparatus may be allowed to remain for a week. The perspiration of the scrotum is not interfered with. This is regarded as very beneficial.—*Gazz. Med. Ital. Venete.*

TREATMENT OF CHRONIC CERVICAL METRITIS.—John M. Bennett, M. D., Liverpool, treats this disease by injecting the cervix with iodine by means of a long pointed hypodermic syringe. The solution is composed of

R
 Iodidi,
 Bromidi potas, aa gr. xx;
 Tr. iodini, 5 ss;
 Aq., 5 ii.

Three or more punctures are made, according to the amount of hyperplastic tissue to be absorbed. Three operations are generally sufficient. Has never known it to cause any disturbance, while it has effected many cures after other methods had failed.—*Dublin Journal of Medical Science.*

It is announced that a preliminary examination will be instituted next year by the University of Pennsylvania for admission into its medical department, which every candidate who has not previously received a collegiate degree must pass. "The applicant will be required, first, to write a brief essay, not exceeding a page of foolscap, which will serve as a test of his qualifications in orthography and grammar; secondly, to undergo an examination in the elementary principles of physics, as contained in Fowne's Chemistry; thirdly, to pass an examination in easy Latin prose translation (first book of Cæsar's Commentaries). In lieu of Latin any language other than English may be substituted. The new regulation is intended to go into effect in the fall of 1880.

MILK FEVER.—Winckel, Hecker, Grunewaldt; Barker and D'Espine have entirely abolished milk fever, and see in the febrile disturbances which sometimes appear when the function of lactation is being developed only evidence that the system has absorbed a small dose of septic poison.

As far as my own experience goes, I have never seen a case of milk fever occur in a patient where I was satisfied that the uterus was completely and thoroughly emptied and firmly contracted; but I have frequently seen it where clots and coagula remained in the uterus, undergoing decomposition, and passing out with the lochia about the second or third day.—*Dr. Brown, in Maryland Medical Journal.*

A PECULIARLY unfortunate occurrence took place recently in this city. A lady, twenty-eight years of age, went out early in the evening to go to consult a physician. As she did not return as soon as she promised, her husband went after her, and found her lying apparently dead in the office, and the doctor and his niece engaged in trying to resuscitate her with the galvanic battery, but their efforts were unsuccessful. It is alleged that she was the victim of malpractice, but the report of the coroner's physician has not yet been communicated for publication.—*Boston Med. and Surg. Jour.*

A FATAL PRESCRIPTION.—A woman died recently in a small town of Thuringia, of an overdose of opium, which was administered on a physician's prescription. In prescribing laudanum he had neglected to put the sign "gtt." beside the figure "15," and the druggist's apprentice had put up 15 grammes (nearly half an ounce) instead of 15 drops. The physician, the druggist, and the apprentice were indicted for having caused the death of the woman by negligence, and the first was condemned to one month, the second to two months, and the third to three months imprisonment.

PARACENTESIS PERICARDII.—Several successful cases of paracentesis of the pericardium have been reported in Europe and America, so that the operation has come to be regarded as a perfectly legitimate and favorable one in certain cases. A small aspirator needle is generally used, and no difficulty has been experienced in the operation. The needle is introduced in the fifth intercostal space, nearly in the position of the normal apex-beat.

URTICARIA.—BISULPHITE OF SODA.—Dr. Carter, Mt. Jackson Ind., states that the hypodermic injection of a saturated solution of bisulphite of soda in urticaria is the most prompt remedy in relieving this affection bhturoee lesom,

has yet tried. It appears to act upon the periphery of the cutaneous nerves as does belladonna, except that the latter has a heating and the former a cooling effect.—*Med. Brief.*

ELASTIC ADHESIVE PLASTER is prepared by Dr. W. P. Morgan, of Baltimore, Md., by giving india-rubber tissue or sheeting a coating of plaster, made by mixing together lead plaster, 1 lb., and resin, 6 drachms. It is an excellent covering in cases of psoriasis, intertrigo, eczema, etc., and its elasticity makes it invaluable in securing the coaptation of incised wounds, and in the treatment of abscesses.

TAPEWORM may be killed in an hour, says Dr. Betelheim, of Vienna. Make a very concentrated decoction of pomegranate root, and administer from 200 to 400 grammes by means of an œsophageal tube; patient having fasted for twenty-four hours. The worm is stupefied, and is expelled, head and all, in an hour or two. The drug causes no sickness and nausea. It is cheaper than kousso and kameela.

A MILK TEST.—A German paper gives a test for watered milk, which is simplicity itself. A well-polished knitting needle is dipped into a deep vessel of milk, and immediately withdrawn in an upright position. If the sample is pure, some of the fluid will hang to the needle; but if water has been added to the milk, even in small proportions, the fluid will not adhere to the needle.

TREATMENT FOR CHILBLAINS.—A good wash for the hands or feet affected with chilblains is:

Sulphurous acid,	3 drachms.
Glycerine,	1 drachm.
Water,	1 drachm.

This acid is particularly useful in the irritating, tormenting stage of chilblains.—*Lancet.*

SALICYLIC ACID AGAINST TENIA.—After trying almost all other remedies in vain, Marynowski administered to a lady who had suffered with *tænia solium* for nine years, 0.5 salicylic acid four times at intervals of one hour and then gave a tablespoonful of castor oil. This treatment proved painless and perfectly successful.—*Apoth. Ztg.*

INHALING-FLUID FOR ASTHMA, CROUP, ETC.—

R. Chloroform, 15 parts.
 Ether, 30 parts.
 Spirits of Turpentine, 5 parts.

Mix. Pour a teaspoonful on a cloth and keep it about three or four inches from the mouth, until the attack is over.—*Medical Brief*.

CHLORAL IN RETENTION OF URINE.—In a case of retention of the urine for twenty-four hours in a case of pregnancy, wherein catheterism had failed, Tidd gave two ten grain doses of chloral at a half hour's interval, with the effect of producing profound sleep and the spontaneous passage of an enormous quantity of urine.

CHLOROFORM POISONING AND TREATMENT.—Prof. J. A. Larabee successfully treated such a case with gr. $\frac{1}{10}$ digitaline, hypodermically, the dose repeated in one and a half hours. A little later gr. $\frac{1}{10}$ atropia was given hypodermically. Four hours from the time the doctor first saw the patient both pulse and respiration had recovered their tone.

SALICYLIC ACID AS AN ANTAPHRODISIAC.—Two cases are reported of loss of sexual power by the free use of salicylic acid in rheumatism. In one, recovery did not take place for three months.—*Pacific Medical and Surgical Journal*.

BOOK NOTICES.

LONG LIFE, AND HOW TO REACH IT. By Joseph G. Richardson, M. D., Professor of Hygiene in the University of Pennsylvania, etc. 16mo. Pp. 160. Philadelphia: Lindsay & Blakiston. Cincinnati: R. Clarke & Co. Price, 50 cents.

This is the second of the series of *American Health Primers*, by American authors, in course of publication by Messrs. Lindsay & Blakiston, of Philadelphia, which we announced some months ago. We noticed the first one in a previous number of the NEWS.

After "Introductory Considerations," we have treated in this little work at length, and in a very entertaining and instructive manner, the "Causes of Disease, and How to Avoid Them;" Heat and Cold as Causes of Disease;"

"Contagion, and How to Escape It;" "Clothing, and How to Wear It;" "Pure Air, and How to Breathe It;" "Pure Water, and How to Obtain It;" "Baths, and How to Take Them;" "The House, and How to Build It;" "Food, and How to Digest It;" "Impurities in Food and Drink, and How to Detect Them;" "Exercise, and How to Take It;" "Sleep, and How to Secure It;" "Mental Power, and How to Retain It;" "Parasitic Enemies, and How to Escape Them;" "Old Age, and How to Meet It." No physician or "layman" can possibly invest fifty cents better than in the purchase of this work. It is very entertainingly written, and contains very much useful information, indeed—information of a kind the more it is wide-spread the better.

As we fear some of our subscribers are not as fully impressed with the importance of vaccination as they should be, we take the liberty to quote what the author has to say in regard to it on page 41:

"The method, then, to avoid the contagion of small-pox is to be vaccinated and revaccinated, at intervals of about seven years, or even oftener, if the disease happens to be unusually prevalent. Every child should be vaccinated at the age of from six weeks to three months (or sooner, if there is small-pox in the neighborhood), with fresh vaccine-matter direct from healthy calves, in order to avoid any possible contamination with the poison of human constitutional diseases. Such virus can now be procured in all of our large cities, and if obtained from responsible dealers is, I believe, quite reliable. The operation should be repeated until it 'takes' perfectly, and is an imperative duty which every parent or guardian owes to his child, as well as to the community at large, without a day's delay, beyond the time above indicated, as that suited for its performance. If each parent or guardian who reads these lines, whilst an unvaccinated infant lives beneath his roof, will but consider for a moment what a life-long sorrow it would be to see, day after day, that dear little innocent face scarred and disfigured by small-pox *always*, simply in consequence of carelessness or neglect to protect it from the destroyer in time, I believe we might soon hope to behold the last of this dreadful malady. Revaccination is necessary, because, although in a majority of instances, a single perfect vaccination protects through life, in a minority of cases this security becomes less and

less with advancing years; and, as yet, we have no means of distinguishing these unfortunate individuals of the latter class, except by reinserting the virus."

POCKET THERAPEUTICS AND DOSE BOOK: With Classifications and Explanations of the Actions of Medicines; Min. and Max. Doses in Troy Weights, with their Equivalents in the Metric Weights; Index and Definitions of Diseases, with Appropriate Remedies; Genitive Endings of all Medicines and Preparations given in Italics; Index of Common Pharmaceutical Names; Classification of Symptoms; Poisons and their Antidotes; Useful Hints to the Prescriber. By Morse Stewart, Jr., B. A., M. D. Second edition, revised and enlarged. 24mo. Pp. 263. Handsomely bound in cloth. Price, \$1; in morocco, \$1.30. Detroit: Geo. D. Stewart.

The long title of this little work, as we have copied from the title-page, presents very well its scope without any further description. It is one of those little books which is *multum in parvo*, and which the young practitioner, and older ones, too, sometimes, will often find convenient to consult. It has very much valuable information, which, without it, would have to be sought for through many different works.

EDITORIAL.

YELLOW FEVER.—This dread scourge has again this summer appeared in the city of Memphis in epidemic form. A death or so occurred the 9th of the present month, July, and the result was quite a panic among the inhabitants, so much so that many hundreds left the city for Northern places. But some five or six cases having occurred, one or more proving fatal, several days elapsed before any new ones made their appearance, and it began to be hoped that the cases which had occurred were but sporadic ones, and that no others would follow. The expectation, however, has been disappointed. New cases have sprung up, and at the present time, July 21, there are probably from fifty to seventy-five persons down with the disease. Next day there were reported five deaths and ten new cases. People are leaving the city in great

numbers. It is stated that every railroad train that goes out is crowded with passengers. The authorities are sending to the country very many of the poorer classes, and the Jewish Association is finding transportation for the poor of that religious denomination. The great exodus, by removing victims, will lessen a great deal the number of cases.

Up to the present time the disease has not exhibited the malignancy it did last year; but it has only commenced. It is very probable that in a few days it will show no diminution in malignancy from the past. In fact, we would not be surprised if, during this summer, it exhibited an increased malignancy.

We are glad to learn that the sanitary authorities keep on in the good work of cleaning the streets and alleys, taking care at the same time to disturb nothing that will act as food for the fever. Localities where the fever prevails are disinfected, and bedding, clothing, carpets, etc., used by patients before dying are destroyed.

Health Officer Minor, of this city, has established quarantine here. The following are his regulations:

1. Every Southern passenger train entering Cincinnati will be inspected by a medical officer of the Health Department, who shall examine the condition of passengers and baggage, and, if satisfied with the result of his inspection, shall give to the conductor of such train a certificate of health.

2. It shall be the duty of the conductor to give the medical examiner all the information he requires regarding the residence and destination of his passengers, and such other information as the said examiner may require. Passengers will also be obliged to answer any questions that the examiner may deem necessary.

3. All baggage shall be inspected by the medical examiner, and in case he has reason to believe that the aforesaid baggage has been exposed to infection from yellow fever, the conductor will see that such baggage is not allowed to enter the corporate limits of this city.

4. All sleeping coaches or cars from points south of Louisville are forbidden to enter the city of Cincinnati. Such coaches or cars must transfer their passengers and baggage three miles from the corporate limits.

5. All passengers or persons having suspicious symptoms are strictly forbidden to enter the city limits, and

no certificate shall be issued to the conductor of trains if such passengers are found.

6. No household goods or effects shall be carried by passenger or freight trains from points south of Louisville, or shipped thereto and reshipped.

7. No conductor of Southern trains shall allow his train to enter the corporate limits without the certificate of the medical examiner.

8. Non-compliance with these rules and regulations will be considered as a violation of the Ohio Quarantine Act, and the President and officers of all railroad corporations will be held to a strict account for the same.

EVOLUTION.—Dr. J. W. Draper, in his "Conflict," has the following to say in regard to "Evolution:" "If any one should object to or deride the doctrine of the evolution or successive development of the animated forms which constitute that unbroken organic chain reaching from the beginning of life on the globe to the present times, let him reflect that he has himself passed through modifications the counterpart of those he disputes. For nine months his type of life was aquatic, and during that time he assumed, in succession, many distinct but correlated forms. At birth his type of life became aerial; he began respiring the atmospheric air; new elements of food were supplied to him; the mode of his nutrition changed; but as yet he could see nothing, hear nothing, notice nothing. By degrees conscious existence was assumed; he became aware that there is an external world. In due time organs adapted to another change of food, the teeth, appeared, and a change of food ensued. He then passed through the stages of childhood and youth, his bodily form developing, and with it his intellectual powers. At about fifteen years, in consequence of the evolution which special parts of his system had attained, his moral character changed. New ideas, new passions, influenced him. And that that was the cause, and this the effect, is demonstrated when, by the skill of the surgeon, those parts have been interfered with. Nor does the development, the metamorphosis, end here; it requires many years for the body to reach its full perfection, many years for the mind. A culmination is at last reached, and then there is a decline. I need not picture its mournful incidents—the corporeal,

the intellectual enfeeblement. Perhaps there is little exaggeration in saying that in less than a century, every human being on the face of the globe, if not cut off in an untimely manner, has passed through all these changes."

Dr. Draper seems to be an admirer of the "horrid" doctrine of predestination of John Calvin, the great reformer of Geneva. Our readers are aware that no theological belief has been so greatly anathematized as that taught by Calvin in his "Institutes" as follows: "We were elected from eternity to eternal happiness before the foundation of the world, from no merit of our own, but according to the divine pleasure." Also, in 1595, the Lambeth Articles asserted that "God from eternity hath predestinated certain men unto life; certain he hath reprobated." The Episcopalian, or Church of England, in its seventeenth Article of Faith, adopted pretty much the same view, although we believe now it does not adhere to it very closely, and is regarded as Arminian.

Dr. Draper says that the general adoption of this doctrine of predestination that nearly all the early Protestant churches brought about, that, in all reformed Europe, miracles ceased. That shrine-cure and relic-cure ended, and with them the great pecuniary profits. It implied a protest, he says, against the doctrine of incessant divine intervention in human affairs, invoked by sacerdotal agency. It proclaimed a *government by-law*, instead of one without law and liable to constant change. It precluded all chance of change in the Divine will, and insured reliableness in the conduct of the world. Of course such a doctrine being true, there was no hope of purchasing eternal happiness by buying indulgences.

Such men as Draper, Buckle, Herbert Spencer, etc., express emphatically their belief that nothing in human affairs, even in regard to the smallest and least important matters, is left to chance; but that every occurrence is the effect of an adequate cause going before, which cause had been brought into existence by another, or others, preceding it. Says Buckle, in his "History of Civilization in England:" "In the ordinary march of society, an increasing perception of the regularity of Nature destroys the doctrine of chance and replaces it by that of 'necessary connection.'" In a subsequent paragraph he writes: "On the one hand we have the human mind obeying the laws of its own existence, and, when uncontrolled by ex-

ternal agents, developing itself according to the conditions of its organization; on the other hand we have what is called Nature, obeying likewise its laws, but incessantly coming in contact with the minds of men, exerting their passions, stimulating their intellect, and, therefore, giving to their actions a direction which they would not have taken without such disturbance. Thus we have man modifying Nature, and Nature modifying man; while out of this reciprocal modification all events must necessarily spring." He regards as a fallacy the testimony of consciousness that the individual acts according to his free will. The savage, for instance, supposes he leads the kind of life he does from choice, but all know that he is controlled by his environments. Dr. Maudsley, in his work on the "Physiology and Pathology of the Mind," in evidence of the fallacious testimony of consciousness, refers to the insane man whose consciousness testifies to him that he is a free agent, acting as he pleases, when all know that his whole conduct is the result of disease.

THE PLAGUE.—The following brief abstract of a lecture delivered by Professor Virchow, before the Medical Society of Berlin, contains the essence of the views held by that distinguished observer concerning the plague: He agrees with old observers regarding the swelling of the lymph-glands, the so-called buboes, as the most striking feature in the disease. It is still an open question, however, whether or not these buboes constitute an essential factor of the disease; whether the so-called fulminating forms may not run their course without glandular swellings. The glands accessible to palpation are not the only ones involved; the entire gland-chains appertaining to the individual regional affections are progressively attacked. The characters of the glandular swellings are analogous to those of the gland-swellings in typhoid fever; they consist of cellular hyperplasia, with more or less hyperæmia, and hemorrhagic effusions. The mode of ulceration, however, is perhaps different. In typhoid a small spot of central necrosis forms, and suppuration takes place around it, but within the limits of the gland; in the plague, on the contrary, according to the more trustworthy observers, the suppuration takes place around the gland. Professor Virchow is not disposed, however, to accept this state-

ment unqualifiedly, although he possesses no facts on which to base a contrary opinion. He believes that in the recent Russian outbreak the disease was the Oriental, and not the Indian plague; the last outbreak of the latter took place in 1838.

Next in point of interest to the buboes are the carbuncles. These occur in about one-fifth of the cases. They are located on the surface of the extremities and on the breast, and present the closest resemblance to the carbuncles of anthrax. They commence as small, red swellings, which grow very rapidly, and extend to the deeper structures; a vesicle forms on the top of each swelling, and bursts, and an ulcer then develops, which destroys the tissues deeply. Professor Virchow has not met with any description which would lead him to admit the occurrence of carbuncles in the internal organs. The petechiæ are often accompanied by larger ecchymoses. These are met with in the internal organ as well as on the surface of the body; and, in fact, the internal hemorrhages seem to be more constant than the external. In the clinical histories of the Oriental plague Professor Virchow has been struck by the great frequency of hemorrhagic affections of the urinary organs; hemorrhages from the lungs are much less frequently recorded. The splenic tumor is a very constant and important symptom. Swellings of the liver and kidneys have also been reported; they are probably due to acute parenchymatous changes.

Professor Virchow believes that the epidemic which raged in Kurdistan and Mesopotamia, and was declared by the Turkish surgeons to be petechial typhus, was really the plague. He draws attention to the fact that specific local affections, and more especially glandular affections, are exceedingly rare in typhus, of which the exanthem, the splenic tumor, and the parenchymatous swelling of the liver and kidneys, and sometimes of the cardiac muscle, constitute, as a rule, the sole lesions. When told that an epidemic of petechial typhus, with "metastatis bubonica," rages in any place (as in Salonica), he is disposed to believe that the disease is really the plague. With regard to prophylaxis, he believes in the efficacy of a strict water quarantine, and of isolation, by means of successive cordons of soldiers, of small, affected districts; but thinks the attempt to quarantine the entire

Russo-German boundary impracticable. For the disinfection of garments, etc., he prefers dry heat, which he believes to be much more effective than sulphurous acid. He thinks that, of all diseases, anthrax presents the closest analogy to the plague.—*Berliner klin. Wochens.*, March 3.

PARKE, DAVIS & CO., MANUFACTURING CHEMISTS.—Among the establishments which have done much to spread the high reputation of Detroit manufacturers none are more widely known than the enterprising house of Parke, Davis & Co. Starting in 1867 from small beginnings, and having to contend with the disadvantages of a declining market, powerful competitions and the then existing prejudice against Western manufacturers, this house has in the short space of eleven years found place in the foremost rank of chemical industries, and in its peculiar specialties is unequaled by any American laboratory.

The attention of this firm is confined to the production of fluid and solid extracts, sugar-coated pills, and granules, concentrations, elixirs, wines, syrups, confections, cerates, spread and roll plasters, medicated lozenges, granular effervescing salts, pepsine, ammonia, chloroform and various other chemical and pharmaceutical products which are required by the dispensing chemists. In the drug trade their brand is known from Maine to California, while their exports are rapidly increasing.

Parke, Davis & Co. have given special attention for the past five years to the introduction of goods hitherto unknown to the medical profession. The expense attendant on their researches in the wilds of South America, the Sandwich Islands, and our own far Western States, has been great, but the resulting success has been gratifying to the firm. So far they have been fortunate enough to have introduced none but remedies of great medicinal value, among which are: *Eucalyptus Globulus*, the new Australian fever and antiseptic remedy; *Guarana*, the Brazilian sick headache remedy; Coto Bark, from Bolivia, for diarrhœa; *Grindelia Robusta*, from California, for asthma; *Grindelia Squarrosa*, for splenetic affections, also from California; *Fucus Vesiculosus*, to reduce fat; *Caseara Sagrado*, for constipation; *Berberis Aquifolium*, for scrofula; *Yerba Reuma*, for catarrh; *Yerba Santa*, for bron-

chitis; *Jaborandi*, to produce perspiration; Kava Kava, Cedron Seed, and many others.

Merchants like these—enterprising, sagacious, and powerful—build up a city and make its name a synonym for progress and power. The number of such firms in any one community must be few, but their influence is wide and the value of their example can not be overestimated.

THE AMERICAN MEDICAL ASSOCIATION.—The thirteenth annual meeting of the American Medical Association was held at Atlanta, Georgia, on the 6th ult. and three following days, under the presidency of Dr. Parvin. The meeting was not as largely attended as on some former occasions, but it lacked nothing in the interest generally manifested, the character of the papers read, or the outcome of the social element. The President delivered an eloquent annual address appropriate to the occasion. He spoke of Atlanta, Georgia, as being almost entirely exempt from malaria, tuberculosis, or yellow fever. He also alluded to the progress recently made in sanitary science, and the value of an enlightened and thorough system of internal sanitary regulation, and the properly regulated system of quarantine in preventing the occurrence of epidemics, such as the yellow fever scourge.

Dr. Seguin, of New York, presented the report on the metric system, which was adopted, and a resolution was carried declaring that the association shall adopt this system. Dr. T. F. Rochester, of Buffalo, chairman of the section on medicine, read an able and exhaustive paper on "Yellow Fever." It was one of the best, if not the best paper read at the meeting. A very able paper on "Sanitary Science," by Dr. J. S. Billings, was next read by Dr. Woodward, in the absence of the author from illness.

Dr. N. S. Davis, of Chicago, moved that the code of ethics be amended prohibiting any physician from teaching or encouraging any student of an irregular or exclusive system of medicine. This motion occasioned considerable discussion. Dr. Dunster, of Ann Arbor, made a most eloquent and able speech in opposition to the amendment. Several members also spoke to the resolution, which was finally tabled till next year. Dr. Chaille, of New Orleans, read an interesting paper on "State Medicine," in which he recommended among other things that the Central Board of Health should be centered in the American

Medical Association. Dr. Gunn, of Chicago, chairman of the section on surgery, read an able dissertation on "Pus" which was well received by the association. A considerable amount of interesting and valuable work was done in the various sections, and many excellent papers were read and discussed, which we have no space to particularize. Dr. H. Hutchins and Dr. W. Brodie were appointed delegates to the Canadian Medical Association.

Dr. Sayre was elected President for the ensuing year, and New York appointed as the place of next meeting, on the first Tuesday in June, 1880.—*Exchange*.

A CORRESPONDENT of the *New York Times* calls attention to the fact that "homeopathy," as a distinctive theory of medicine, is about being abandoned as irrational. Dr. Wyld, Vice-President of the British Homeopathic Society, has written Dr. Richardson, a distinguished member of the so-called "Regular School," that a large number of the homeopaths of Great Britain desire to drop their distinctive name, and to be incorporated into the ranks of the Allopathists. Dr. Wyld refers to the fact that many of the Regular School have renounced all the heresies of the past in the treatment of acute disease, while, on the side of his school, nearly all have abandoned the use of globules, and have substituted therefor doses in a tangible form. The following extra from Dr. Wyld's letter will give an idea of what experience has demonstrated to be irrational in homeopathy practice:

"To recapitulate. We admit:

"First—That the views expressed by Hahneman are often extravagant and incorrect.

"Second—That Hippocrates was right when he said: 'Some diseases are best treated by similars, and some by contraries,' and therefore it is unwise and incorrect to assume the title of homeopathist.

"Third—That although many believe that the action of the infinitesimal in nature can be demonstrated, its use in medicine is practically (by a large number in this country) all but abandoned."

Similia similibus curantur—rendered vulgarly, a little of the hair of the dog is good for his bite—is found to be a delusion, and more to be honored in the breach than in the observance, and the school based on it is to give up the ghost and pass away. We confess, to a liking for it,

on account of children, to whom the nauseous doses of the old school were always so repulsive. They would cry for the medicine of the one, and gag at that of the other. What will the poor little things do now? The compensation, however, will be that doctors will no longer disagree, and we shall all go off *secundum artem*.

HOW TO POSTPONE THE USE OF SPECTACLES.—Dr. W. Cheatham writes to the Louisville *Medical News*:

"Till lately I have advised the use of spectacles the instant their want is felt; but now we have in sulphate of eserine a remedy (and a safe one, I believe), by which the wearing of glasses can be put off for several years. In presbyopia we have loss of distinct near vision, caused partly by the loss of power in what is known as the ciliary muscle. Eserine is a stimulant to this muscle, producing contraction, and in that way assists in accommodation.

"From my results so far I believe that spectacles may be dispensed with for several years after their want is first felt. I usually order eserine sulphat. gr. j; aquæ dest. ʒ j; one drop to be put into each eye at bedtime. On account of the artificial myopia produced I order it to be put in at bedtime. It may be dropped in at any time, as the myosis soon passes away.

"Besides its employment in glaucoma and other inflammations of the eye, and in presbyopia, I have found it of great use in asthenopic (weak) eyes, depending upon oversightedness and weakness of accommodation, the latter the result of either overwork, general debility, diphtheria, etc.

"Spectacles in presbyopia (the loss of near vision from age) always gives ease; but there is a certain discomfort from the use of glasses, besides many other objections brought forward by patients, all of which, as a usual thing, can be referred to pride. This pride we should humor as much as possible. If by means of the eserine we can give them as great comfort and preserve their eyes as well as by means of spectacles, I think it proper that we should do so."

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have now an established position throughout the civilized world as important therapeutical agents. A *perfect combination* of the two has long been a desideratum, since they are both of value in the same disorders, while the cases in which one is demanded and the other contra-indicated are exceedingly rare.

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The value of *cod-liver oil* in phthisis is so familiar to the physician that it is needless to dwell upon it. But the value of *phosphorus* is also universally recognized in this disease, especially when complicated with nervous derangements. The *combination* of the two therefore furnishes a more effective form for the administration of cod-liver oil in the great majority of cases in which that remedy is indicated, and one which will at once commend itself to the profession.

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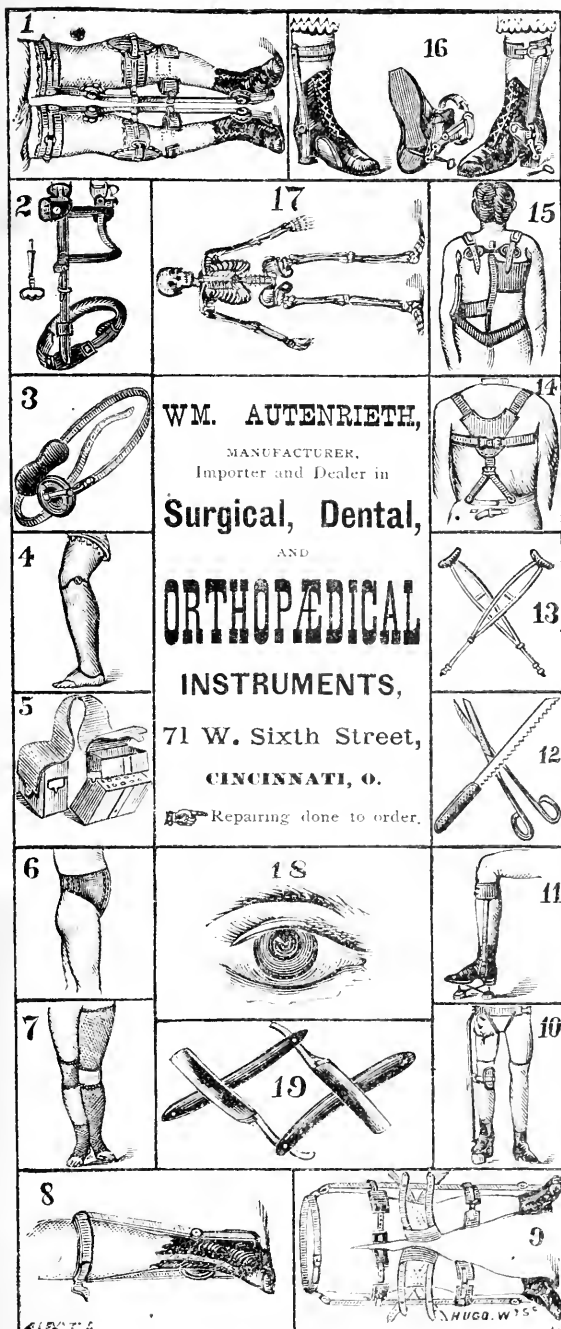
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Prepared from the Best Canada Barley Malt by an Improved Process.

Attention is invited to the following Analysis of this Extract, as given by S. H. Douglas, Prof. of Chemistry, University of Michigan, Ann Arbor.

TROMMER EXTRACT OF MALT CO.:

I inclose herewith my analysis of your EXTRACT OF MALT: Malt Sugar (Glucose), 46.1; Dextrine, Hop-bitter, Extractive Matter, 23.6; Albuminous Matter (Diasase), 2.466; Ash (Phosphates), 1.712; Alkalies, .377; Water, 25.7. Total, 99.958.

In comparing the above analysis with that of the Extract of Malt of the German Pharmacopœia, as given by Hagar, that has been so generally received by the profession, I find it to substantially agree with that article.

Yours truly,

SILAS H. DOWGLAS.

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This preparation is highly recommended by physicians as an effective agent for the restoration of delicate and exhausted constitutions. It is very nutritious, being rich in both muscle and fat producing materials.

By American and foreign authorities the MALT EXTRACT is extolled in the treatment of impaired, difficult and "irritable" digestion, loss of appetite, sick headache, chronic diarrhea, cough, bronchitis, asthma, consumption, the debility of females and of the aged, in retarded convalescence from exhausting diseases, and all depressing maladies. It is often borne by the stomach when every kind of food is rejected.

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Each dose contains four grains of the Pyrophosphate of Iron.

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With Cod Liver Oil and Iodide of Iron.

Consisting of equal parts of Extract of Malt and Cod Liver Oil, Iodide of Iron being added in the proportion of one grain to the dose.

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Consisting of equal parts of Extract of Malt and the best Cod Liver Oil.

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Trommer's Extract of Malt,

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Each dose contains one grain each of the Iodides of Iron and Manganese.

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WITH HYPHOSPHITES.

Each dose contains 2 grains Hypophosphite of Lime; $2\frac{1}{2}$ grains Hypophosphite of Soda, and 1 grain each of the Hypophosphites of Potassa and Iron.

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Each dose contains the proper proportions of the Iodide of Calcium and Iron, and of the Chlorides and Bromides of Magnesium, Sodium and Potassium.

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Trommer's Extract of Malt,

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Each dose contains six and one-fourth grains of Pepsin and two and one-eighth minims of Hydrochloric Acid.

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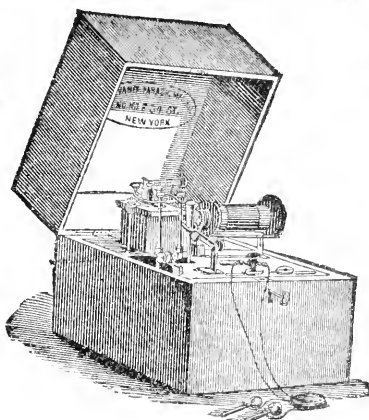
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(*EXTRACT OF MALTED BARLEY, WHEAT & OATS.*)

THIS PREPARATION
Contains from three to five times the
Medicinal and Nutritive Elements found in
Extract of Malt.

MALTINE is a highly concentrated extract of malted Barley, Wheat and Oats, containing, undiminished and unimpaired, all the medicinal and nutritious principles found in these cereals. By the most carefully conducted scientific process, we are enabled to offer to the medical profession a perfect article, possessing from three to five times the therapeutic and nutritive merit of any foreign or domestic Extract of Malt.

In support of our claims we invite the attention of the profession to the following points, viz :

FIRST: In the manufacture of MALTINE the evaporation necessary to reduce it to its great density is conducted in vacuo, at a temperature ranging from 100° to 120° Fahr.; while most manufacturers of Extract of Malt resort to "open pan" or low pressure steam boiling, by neither of which processes can the extract be so produced as to preserve the Diastase, Phosphates, and Albuminoids on which its remedial value so greatly depends, and the product is either of a dark color or of low specific gravity, possessing little virtue aside from the saccharine matter which it contains.*

SECOND: Carbon, Hydrogen, Nitrogen, Phosphorus, Sulphur, Iron, Magnesium and Potassium are essential elements in the food of man, and it is only in MALTINE, containing the combined properties of malted Barley, Wheat, and Oats, that all these principles can be found in the proper proportions; Extract of Malt made from Barley alone is wanting in some of the most important of these elements.

THIRD: Gluten is the most nutritious principle found in the cereals, and is the only vegetable substance which will alone support life for any great length of time. It is composed of three distinct nitrogenous principles, together with fatty and inorganic matters, and is analogous to animal fibrin. MALTINE contains twenty times the quantity of Gluten found in any Extract of Malt.

FOURTH: LIEBIG says, "Wheat and Oats stand first among our list of cereals in combining all the elements in proportions necessary to support animal life. They are especially rich in muscular and fat producing elements." The only reason we use malted Barley in the manufacture of MALTINE is that it contains larger productions of mineral matters (bone producers) and Diastase. It is deficient in all other essential elements.

We believe that any practitioner will readily recognize the superiority of MALTINE, and would request a trial and comparison of merits with any article offered for similar uses

* As a sure test for Diastase, and the Albuminoids, a small quantity should be put in a test tube or small vial, largely diluted with water, and heated to the boiling point, when the Albumen, if present, will coagulate, and appear in little flocculent particles throughout the liquid. If the extract remains clear, it is proof that it has already been coagulated by excessive heat, and removed by filtration during the process of manufacturing. Any heat which will coagulate Albumen will inevitably destroy the digestive power of Diastase.

The Nitrogenous constituents of MALTINE have a composition identical with that of the chief constituents of the Blood, and therefore contain nearly every element requisite for the reproduction of the human body.

MALTINE AND ITS COMPOUNDS

Can undoubtedly be used with greater success than any other remedy now known, in cases of general and nervous Debility, Indigestion, imperfect Nutrition and deficient Lactation; Pulmonary affections, such as Phthisis, Coughs, Colds Hoarseness, Irritation of the Mucous Membranes and difficult expectoration; Cholera Infantum and wasting diseases of children and adults; Convalescence from Fevers, and whenever it is necessary to increase the vital forces and build up the system.

We manufacture the following preparations, the formulas and doses of which are given in our dose books and on the label attached to each bottle:

MALTINE with Hops.

MALTINE, Ferrated:

This combination is specially indicated in Anæmia and Chlorosis, and in all cases of defective nutrition, where Iron is deficient in the system.

MALTINE with Phosphates Iron and Quinia:

A powerful general and nutritive tonic.

MALTINE with Phosphates Iron, Quinia and Strychnia:

A powerful nutritive, general and nervous tonic.

MALTINE with Hypophosphites:

This preparation is specially indicated in Phthisis, Rickets, and deficient Ossification.

MALTINE with Pepsin and Pancreatine:

One of the most efficient combinations in Dyspepsia, Cholera Infantum and all diseases resulting from imperfect nutrition. It contains three of the all-important digestive agents, Diastase being one of the constituents of the MALTINE. We believe there are few cases of Dyspepsia which will not readily yield to the medicinal properties of the above combination, while the system is invigorated by its nutritive qualities.

MALTINE with Beef and Iron:

One of the most valuable combinations in cases of general Debility, when there is deficient nutrition and a deficiency of Iron in the system.

MALTINE with Cod Liver Oil:

The most perfect emulsion, and most agreeable and effective mode of administering this nauseous but valuable Oil yet discovered.

MALTINE with Cod Liver Oil and Phosphorus:

In this combination the Phosphorus has no irritant effect upon the stomach.

MALTINE with Cod Liver Oil and Iodide of Iron:

This is prepared with the tasteless Iodide of Iron, which undergoes no chemical change from contact with the Oil, and does not blacken the teeth.

MALTINE with Alteratives:

In this preparation MALTINE is combined with the most valuable Alteratives known, such as Iodides, Bromides, and Chlorides, and will fully meet the requirements of the practitioners in Syphilis, Scrofula, and all depraved conditions of the blood. Each fluid ounce contains: Chloride Calcium, 10 grains; Chloride Magnesium, 10 grains; Bromide Sodium, 5 grains; Iodide Potassium, 1 grain; Iodide Iron, $\frac{1}{4}$ grain. Dose: One teaspoonful to one tablespoonful.

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MALTINE preparations are sold at the same prices as EXTRACT OF MALT and its combinations, and are put up in amber bottles holding sixteen fluid ounces; each bottle inclosed in a folding paper box.

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1-4 inch	115°	20
1-6 inch, D and I	140°	25
1-8 inch, D and I	160°	40
1-15 inch, Im	160°	45
1-18 inch, D and I	160°	55

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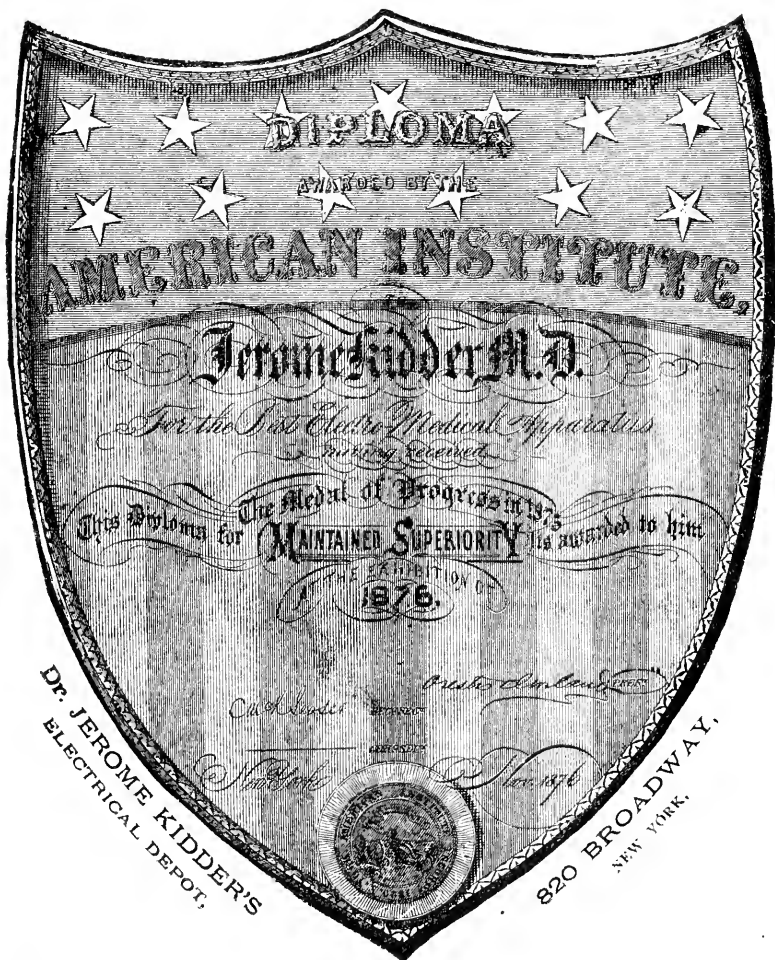
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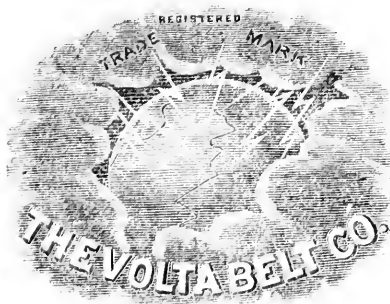
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MEMBER OF THE AMERICAN MEDICAL COLLEGE ASSOCIATION.

SESSIONS OF 1879-'80.

THE COLLEGIATE YEAR in this Institution embraces a Preliminary Autumnal Term, the Regular Winter Session, and a Spring Session.

THE PRELIMINARY AUTUMNAL TERM for 1879-'80 will begin on Wednesday, September 17, 1879, and continue until the opening of the Regular Session. During this term instruction, consisting of didactic lectures upon special subjects, and daily clinical lectures, will be given, as heretofore, by the entire Faculty, in the same number and order as during the Regular Session. Students expecting to attend the Regular Session are recommended to attend the Preliminary Term, but such attendance is not required.

THE REGULAR SESSION will begin on Wednesday, October 1, 1879, and end about the 1st of March, 1880. During this Session, in addition to four didactic lectures on every week-day except Saturday, two or three hours are daily allotted to clinical instruction.

THE SPRING SESSION consists chiefly of recitations from Text-Books. This Session begins on the 1st of March and continues until the 1st of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

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Emeritus Professor of Obstetrics and Diseases of Women, and President of the Faculty.

JAMES R. WOOD, M. D., LL. D.,

Emeritus Professor of Surgery.

FORDYCE BARKER, M. D., LL. D.

Professor of Clinical Midwifery and Diseases of Women.

AUSTIN FLINT, M. D.,

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W. H. VAN BUREN, M. D.,

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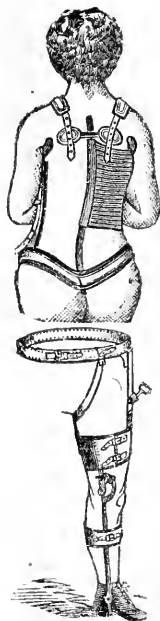
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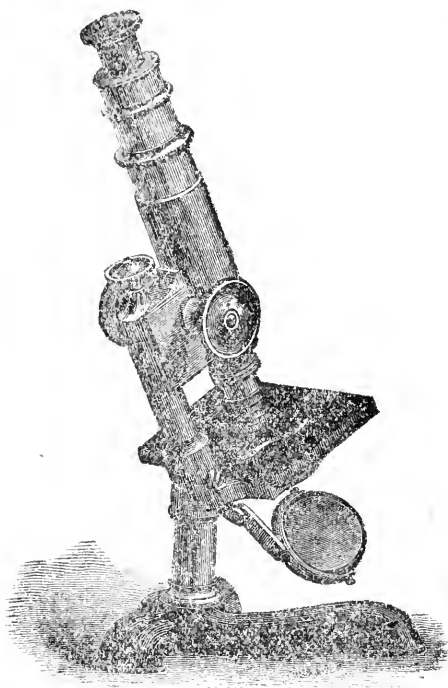
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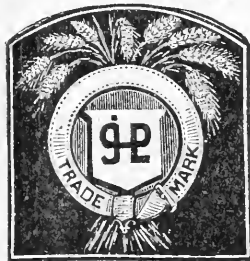
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